

TEST REPORT

Applicant: Konec Solutions Pty Ltd
Address: Level 3, 5 Talavera Rd, Macquarie Park NSW 2113
Australia
Equipment Type: Camera Hub G2H Pro
Model Name: CH-C01
Brand Name: Aqara
Test Standard: AS/NZS 4268:2017 (refer section 3)
Test Date: Mar. 01, 2022 - Mar. 22, 2022
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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Mar. 31, 2022</u>	<u>Initial Issue</u>

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1 Administrative Data (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park Shahe Xi Road, Nanshan District Shenzhen, Guangdong Province, People's Republic of China
Phone Number	+86 755 6685 0100

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park Shahe Xi Road, Nanshan District Shenzhen, Guangdong Province, People's Republic of China
Description	All measurement facilities used to collect the measurement data are located at Block B, 1/F, Baisha Science and Technology Park Shahe Xi Road, Nanshan District Shenzhen, Guangdong Province, People's Republic of China

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Konec Solutions Pty Ltd
Address	Level 3, 5 Talavera Rd, Macquarie Park NSW 2113 Australia

2.2 Manufacturer Information

Manufacturer	Lumi United Technology Co., Ltd.
Address	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	Camera Hub G2H Pro
Model Name Under Test	CH-C01
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	X1
Software Version	V1.0.3_0006.0004
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Technical Information

EUT Type	Stand-alone equipment
Network and Wireless connectivity	Wi-Fi 802.11b, 802.11g, 802.11n Zigbee

The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	802.11b/g/n (20 MHz): 2.412 GHz - 2.472 GHz $f_c = 2412 \text{ MHz} + (N-1) \times 5 \text{ MHz}$, where - f_c = "Operating Frequency" in MHz, - N = "Channel Number" with the range from 1 to 13. The frequency block is 2.4GHz-2.4835GHz
Modulation Type	DSSS, OFDM
Equipment Type (LBT / non- LBT)	LBT based Detect and Avoid
Adaptive or non-adaptive	Adaptive
LBT Based	Yes (Load Based)
Antenna System (eg., MIMO, Smart Antenna)	N/A
Categorization as Correlated or Completely Uncorrelated	N/A
Antenna Type	Internal Antenna
Antenna Gain	1.5 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.)
Beamforming Gain	N/A
The Max RF Output power	16 dBm
Receiver Category	1

Modulation technology	Modulation Type	Transfer Rate (Mbps)(Single RF path)
DSSS (802.11b)	DBPSK	1
	DQPSK	2
	CCK	5.5/11
OFDM (802.11g)	BPSK	6/9
	QPSK	12/18
	16QAM	24/36
	64QAM	48/54
OFDM (802.11n-20 MHz)	BPSK	6.5/7.2
	QPSK	13/19.5/14.4/21.7
	16QAM	26/39/28.9/43.3
	64QAM	52/58.5/65/57.8/65/72.2

Note: Preliminary tests were performed in different data rate in above table to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel
RF output power	11b/11g/11n20	1/6/6.5 Mbps	1/7/13
Power Spectral Density	11b/11g/11n20	1/6/6.5 Mbps	1/7/13
Adaptivity (adaptive equipment using modulations other than FHSS)	11b/11g/11n20	1/6/6.5 Mbps	1/13
Occupied Channel Bandwidth	11b/11g/11n20	1/6/6.5 Mbps	1/13
Transmitter unwanted emissions in the out-of-band domain	11b/11g/11n20	1/6/6.5 Mbps	1/13
Transmitter unwanted emissions in the spurious domain	11b/11g/11n20	1/6/6.5 Mbps	1/13
Receiver spurious emissions	11b/11g/11n20	1/6/6.5 Mbps	1/13
Receiver Blocking	11b	1 Mbps	1/13

Mode	Channel	Channel Number	Frequency (MHz)
802.11b	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412
802.11g	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412
802.11n20	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412

2.6 Additional Instructions

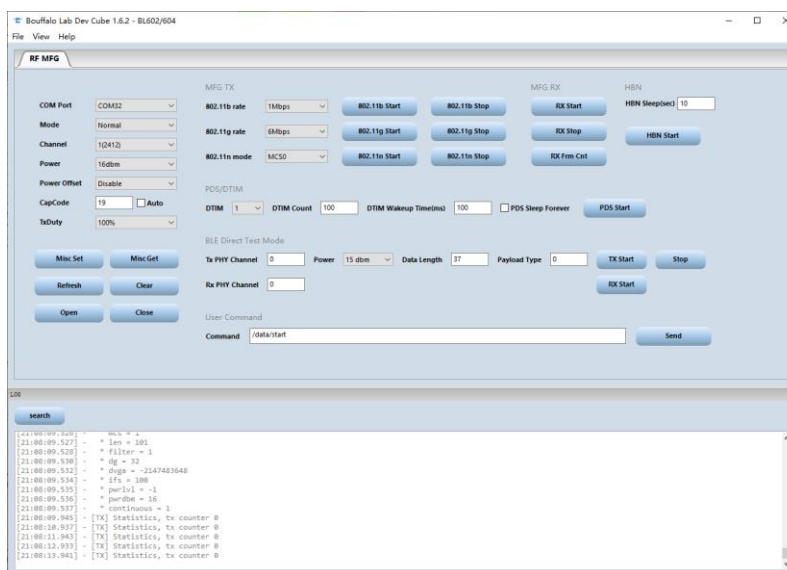
EUT Software Settings:

Mode	<input checked="" type="checkbox"/> Special software is used. The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.
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During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power level setup in software			
Test Software Version	Bouffalo Lab Dev Cube		
Support Units (Software installation media)	Description	Manufacturer	Model
	Notebook	HP	N/A
Mode	Channel	Soft Set	
802.11b	1	16	
	7	16	
	13	16	
802.11g	1	15	
	7	15	
	13	15	
802.11n20	1	15	
	7	15	
	13	15	

Run Software:



3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	AS/NZS 4268:2017	Radio equipment and systems - Short range devices - Limits and methods of measurement
2	ETSI EN 300 328 V2.2.2 (2019-07)	Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum

Test items and the results are as follows:

Report Section	Standard Rule	Description	Channel	Test Result	Verdict	Remark
Transmitter Parameters						
5.1.1	4.3.2.2	RF output power	Low/Middle/High	ANNEX A.1	Pass	--
5.1.2	4.3.2.3	Power Spectral Density	Low/Middle/High	ANNEX A.2	Pass	--
5.1.3	4.3.2.4	Duty Cycle, Tx-sequence, Tx-gap	--	ANNEX A.3	N/A	Note ¹ , Note ²
5.1.4	4.3.2.5	Medium Utilization (MU) factor	--	ANNEX A.4	N/A	Note ¹ , Note ²
5.1.5	4.3.2.6	Adaptivity (adaptive equipment using modulations other than FHSS)	Low/ High	ANNEX A.5	Pass	Note ² , Note ³
5.1.6	4.3.2.7	Occupied Channel Bandwidth	Low/ High	ANNEX A.6	Pass	--
5.1.7	4.3.2.8	Transmitter unwanted emissions in the out-of-band domain	Low/ High	ANNEX A.7	Pass	--
5.1.8	4.3.2.9	Transmitter unwanted emissions in the spurious domain	Low/ High	ANNEX A.8	Pass	--
Receiver Parameters						
5.2.1	4.2.3.2	Receiver categories	--	--	--	--
5.2.2	4.3.2.10	Receiver spurious emissions	Low/ High	ANNEX A.9	Pass	--
5.2.3	4.3.2.11	Receiver Blocking	Low/ High	ANNEX A.10	Pass	--
Other Parameters						
5.3.1	4.3.2.12	Geo-location capability	--	--	N/A	Note ⁴

Note ¹: This requirement apply to non-adaptive equipment or to adaptive equipment when operating in a non-adaptive mode. The equipment is using wide band modulations other than FHSS.

Note ²: This requirement do not apply for equipment with a maximum declared RF Output power level of less than 10 dBm e.i.r.p. or for equipment when operating in a mode where the RF Output power is less than 10 dBm e.i.r.p.

Note ³: This requirement does not apply to non-adaptive equipment or adaptive equipment operating in a non-adaptive mode.

Note ⁴: This requirement does not apply to devices that do not support Geo-location capability.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	30% to 75%	
Atmospheric Pressure	98 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22°C to +25°C
	LT (Low Temperature)	-10°C
	HT (High Temperature)	+40°C
Working Voltage of the EUT	NV (Normal Voltage)	5.0 V

4.2 Test Equipment

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-30	103118	2021.08.09	2022.08.08
Spectrum Analyzer	KEYSIGHT	N9020A	MY5606018 3	2021.09.08	2022.09.07
Vector Signal Generator	ROHDE&SCHWARZ	SMBV100 A	260592	2022.02.09	2023.02.08
Signal Generator	ROHDE&SCHWARZ	SMB100A	177746	2021.08.24	2022.08.23
Switch Unit with OSP-B157	ROHDE&SCHWARZ	OSP120	101270	2021.06.01	2022.05.31
Signaling Unit	ROHDE&SCHWARZ	CMW270	100607	2021.06.01	2022.05.31
Signaling Unit	ROHDE&SCHWARZ	CMW500	142028	2021.06.01	2022.05.31
DC Power Supply	ITECH	IT6720	6001030107 17610007	2021.09.22	2022.09.21
Temperature Chamber	AHK	NTH64-40A	1310	2022.01.05	2023.01.04
EMI Receiver	KEYSIGHT	N9038A	MY5322011 8	2021.09.13	2022.09.12
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	9163-624	2021.08.20	2024.08.19
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2022.07.01
Test Antenna-Horn (18-40 GHz)	A-INFO	LB-180400KF	J211060273	2021.07.02	2024.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2021.09.04	2024.09.03

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.
TS8997 EMC32	ROHDE&SCHWARZ	V10.00.00	N/A

4.4 Measurement Uncertainty

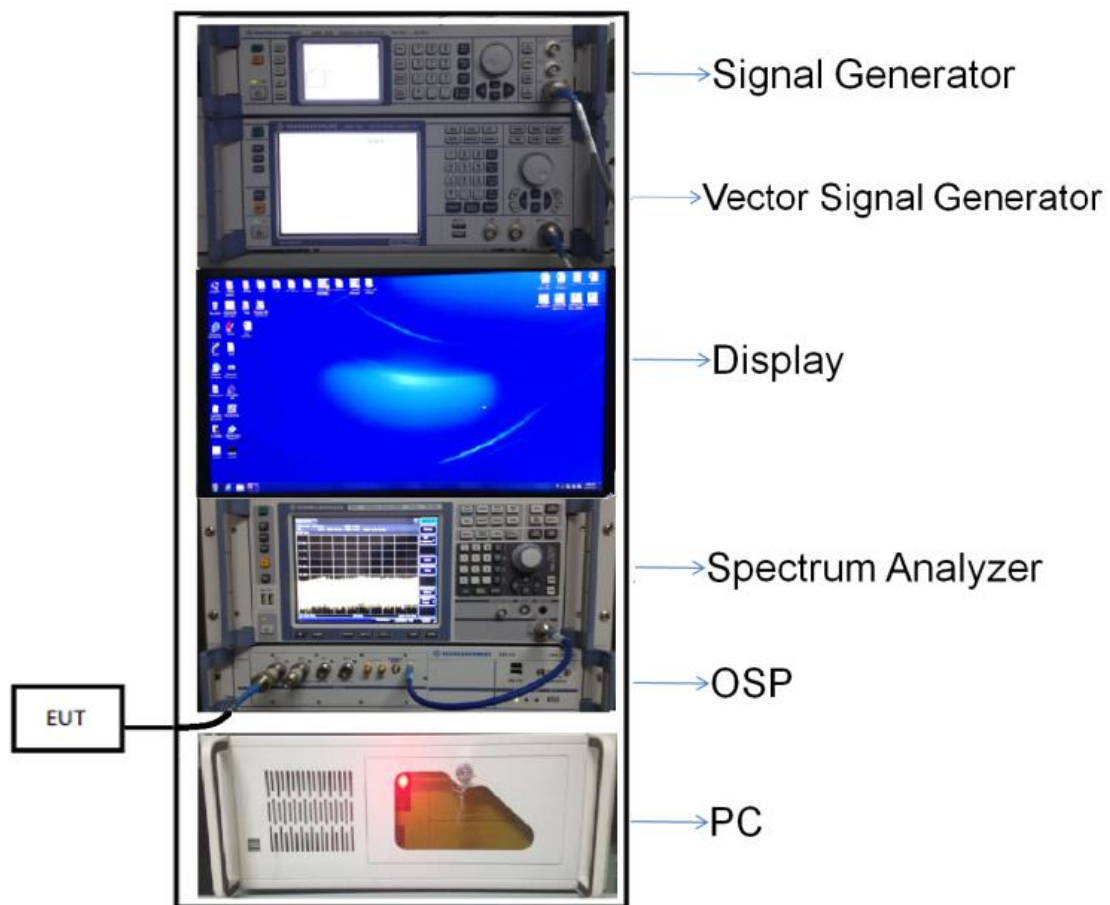
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Parameters	Uncertainty
Occupied Channel Bandwidth	3.6 %
RF output power, conducted	0.66 dB
Power Spectral Density, conducted	0.90 dB
Unwanted Emissions, conducted	1.78 dB
All emissions, radiated	5.36 dB
Temperature	0.82 °C
Humidity	4.1 %

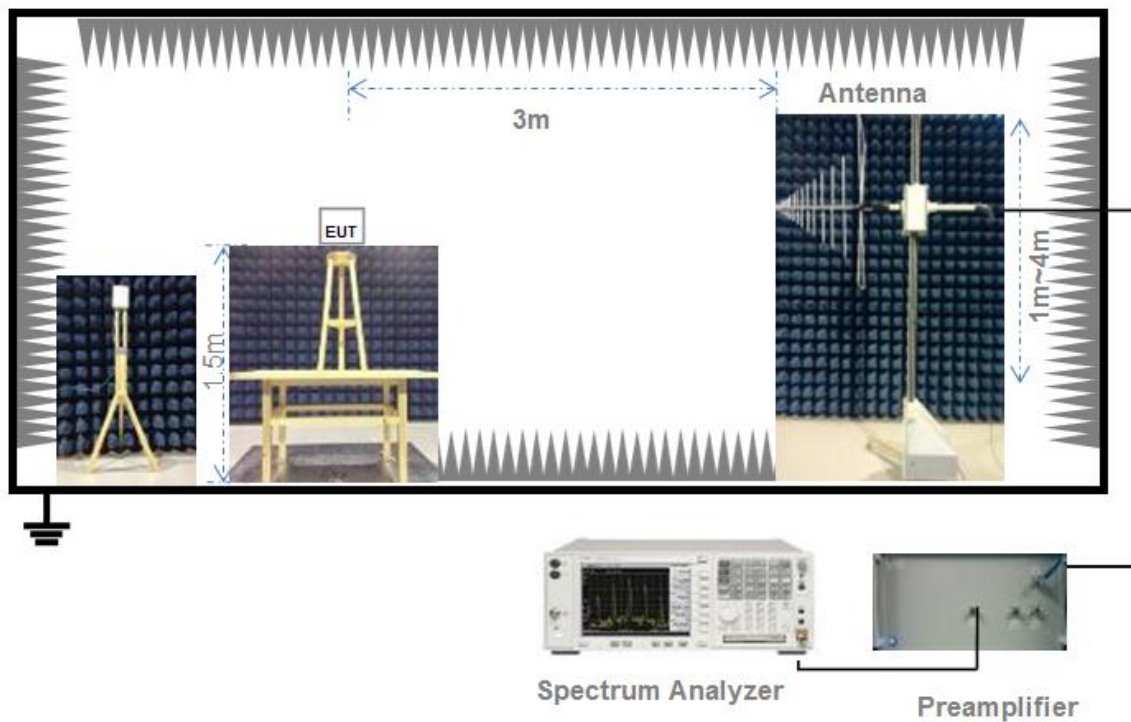
4.5 Description of Test Setup

4.5.1 For Conducted Test

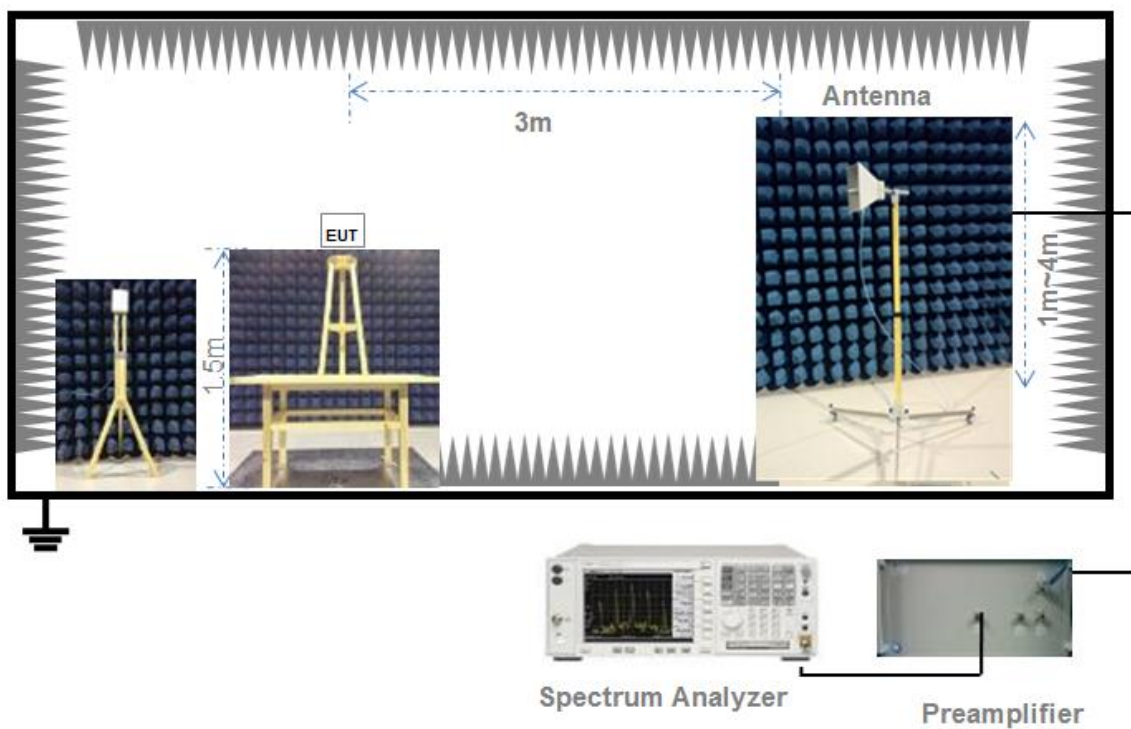


(Diagram 1)

4.5.2 For Radiated Test

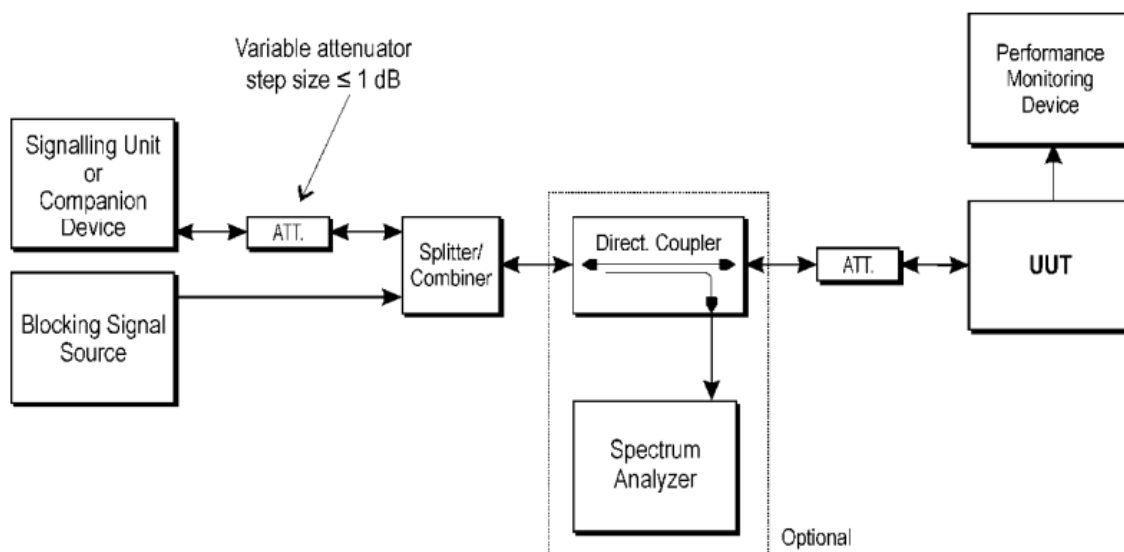


(Diagram 2)



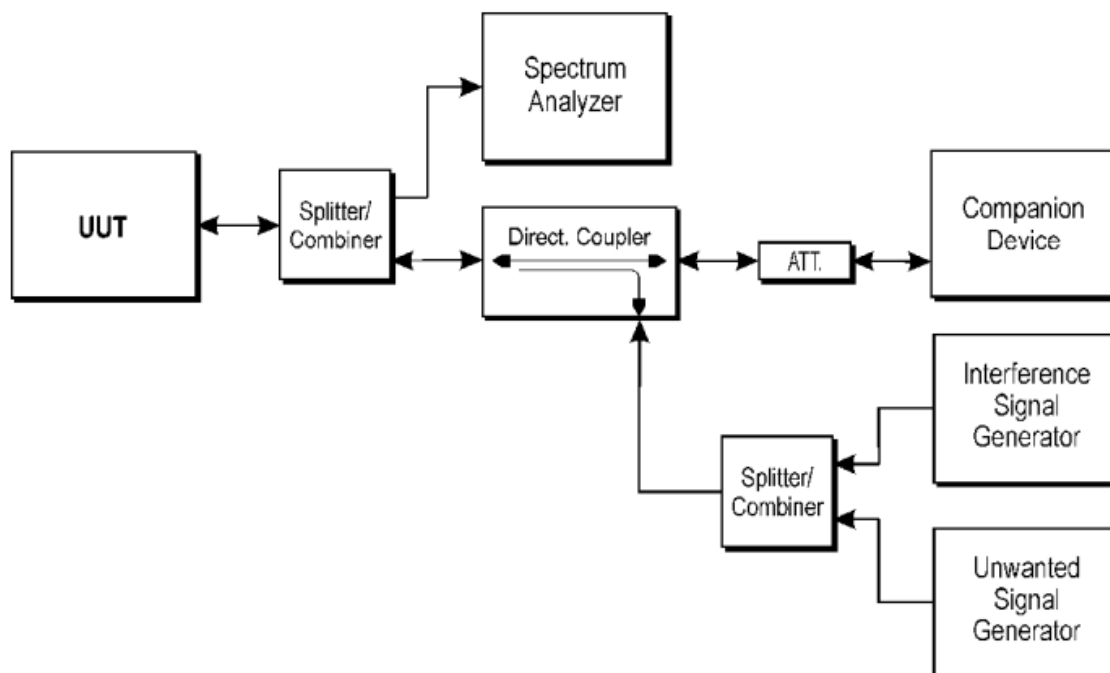
(Diagram 3)

4.5.3 For Receiver Blocking Test



(Diagram 4)

4.5.4 For Adaptivity Test



(Diagram 5)

5 TEST ITEMS

5.1 Transmitter Parameters

5.1.1 RF output power

5.1.1.1 Limit

The maximum RF output power shall be equal to or less than 20 dBm.

5.1.1.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.1.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.2.2.

5.1.1.4 Test Result

Please refer to ANNEX A.1.

5.1.2 Power Spectral Density

5.1.2.1 Limit

The maximum Power Spectral Density for non-FHSS equipment is 10 dBm per MHz.

5.1.2.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.2.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.3.2.

5.1.2.4 Test Result

Please refer to ANNEX A.2.

5.1.3 Duty Cycle, Tx-sequence, Tx-gap

5.1.3.1 Limit

The Duty Cycle shall be equal to or less than the maximum value declared by the manufacturer.

The Tx-sequence time shall be equal to or less than 10 ms.

The minimum Tx-gap time following a Tx-sequence shall be equal to the duration of that proceeding Txsequence with a minimum of 3,5 ms.

5.1.3.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.3.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.2.2.

5.1.3.4 Test Result

Please refer to ANNEX A.3.

5.1.4 Medium Utilization (MU) factor

5.1.4.1 Limit

The maximum Medium Utilization factor for non-adaptive equipment shall be 10 %.

5.1.4.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.4.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.2.2.

5.1.4.4 Test Result

Please refer to ANNEX A.4.

5.1.5 Adaptivity (adaptive equipment using modulations other than FHSS)

5.1.5.1 Limit

Requirement	Operational Mode			
	Non-LBT based Detect and Avoid	LBT based Detect and Avoid		
		Frame Based Equipment	Load Based Equipment (CCA using 'energy detect')	Load Based Equipment (CCA not using any of the mechanisms referenced as Note ²)
Minimum Clear Channel Assessment (CCA) Time	NA	18 us (see Note ¹)	(see Note ²)	18 us (see Note ¹)
Maximum Channel Occupancy (COT) Time	40 ms	1 ms to 10 ms	(see Note ²)	13 ms
Minimum Idle Period	5% of COT	5% of COT	(see Note ²)	NA
Extended CCA check	NA	NA	(see Note ²)	a random duration in the range between 18 μs and at least 160 μs
Short Control Signalling Transmissions	Maximum duty cycle of 10 % within an observation period of 50 ms (see Note ³)			

Note ¹: The CCA time used by the equipment shall be declared by the supplier.

Note ²: Load Based Equipment may implement an LBT based spectrum sharing mechanism based on the Clear Channel Assessment (CCA) mode using energy detect, as described in IEEE 802.11™-2012 [i.3] clause 9, clause 10, clause 16, clause 17, clause 19 and clause 20, or in IEEE 802.15.4™-2011 [i.4], clause 4, clause 5 and clause 8.

Note ³: Adaptive equipment may or may not have Short Control Signalling Transmissions.

Note ⁴: The Idle Period is considered to be equal to the CCA or Extended CCA time defined in clause 4.3.2.6.3.2.3, step 1 and step 2.

Note ⁵: The Idle Period in between transmissions is considered to be the CCA or the Extended CCA check as there are no transmissions during this period.

Interference threshold level:

Maximum transmit power (P_H) EIRP dBm	Threshold level (TL) (see notes 1 and 2)
20	-70 dBm / MHz
<p>Note ¹: $TL = -70 \text{ dBm/MHz} + 10 \times \log_{10} (100 \text{ mW} / P_{out})$ (P_{out} in mW e.i.r.p.).</p> <p>Note ²: transmitter the CCA threshold level (TL) shall be equal or lower than -70 dBm/MHz at the input to the receiver (assuming a 0 dBi receive antenna).</p>	

Unwanted Signal parameters

Wanted signal mean power from companion device	Unwanted signal frequency (MHz)	Unwanted CW signal power (dBm)
sufficient to maintain the link (see Note ²)	2 395 or 2 488,5 (see Note ¹)	-35 (see Note ³)
<p>Note ¹: The highest frequency shall be used for testing operating channels within the range 2400 MHz to 2 442 MHz, while the lowest frequency shall be used for testing operating channels within the range 2 442 MHz to 2 483.5 MHz. See clause 5.4.6.1.</p> <p>Note ²: A typical value which can be used in most cases is -50 dBm/MHz.</p> <p>Note ³: The level specified is the level in front of the UUT antenna. In case of conducted measurements, this level has to be corrected by the actual antenna assembly gain.</p>		

5.1.5.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.5.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.6.2.

5.1.5.4 Test Result

Please refer to ANNEX A.5.

5.1.6 Occupied Channel Bandwidth

5.1.6.1 Limit

The Occupied Channel Bandwidth for each hopping frequency shall fall completely within the band 2400 MHz to 2483.5 MHz.

In addition, for non-adaptive non-FHSS equipment with e.i.r.p. greater than 10 dBm, the Occupied Channel Bandwidth shall be equal to or less than 20 MHz.

5.1.6.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.6.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.7.2.

5.1.6.4 Test Result

Please refer to ANNEX A.6.

5.1.7 Transmitter unwanted emissions in the out-of-band domain

5.1.7.1 Limit

The transmitter unwanted emissions in the out-of-band domain but outside the allocated band, shall not exceed the values provided by the mask in figure 1.

NOTE: Within the 2400 MHz to 2483,5 MHz band, the Out-of-band emissions are fulfilled by compliance with the Occupied Channel Bandwidth requirement in clause 4.3.1.8.

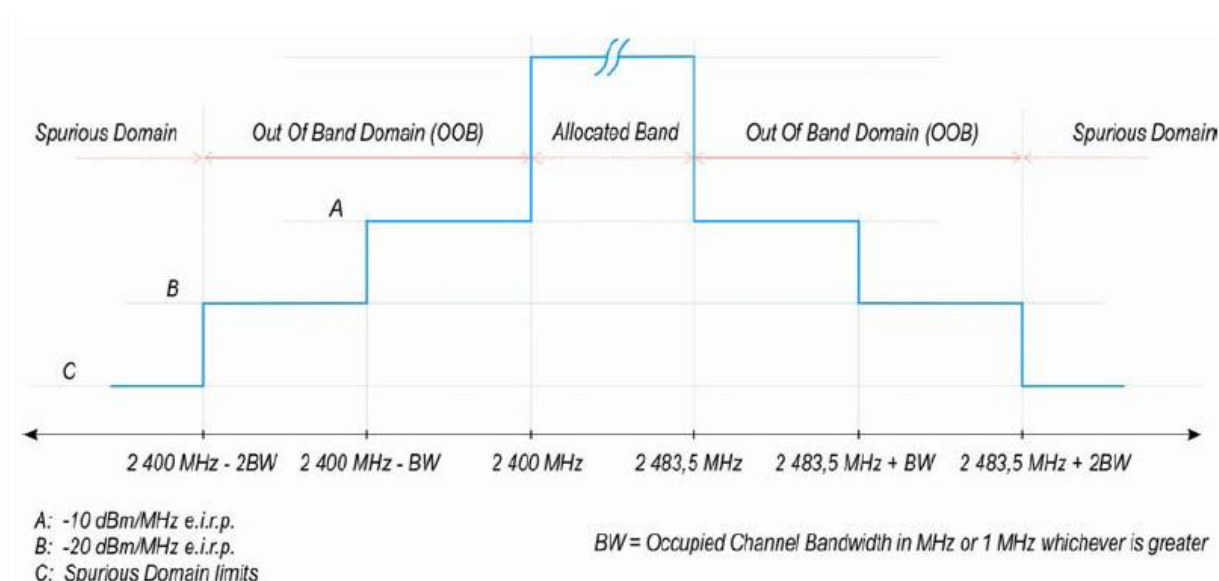


Figure 1: Transmit mask

5.1.7.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.7.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.8.2.

5.1.7.4 Test Result

Please refer to ANNEX A.7.

5.1.8 Transmitter unwanted emissions in the spurious domain

5.1.8.1 Limit

The transmitter unwanted emissions in the spurious domain shall not exceed the values in following tables:

Frequency range	Maximum power (dBm)	Bandwidth
30 MHz to 47 MHz	-36	100 kHz
47 MHz to 74 MHz	-54	100 kHz
74 MHz to 87.5 MHz	-36	100 kHz
87.5 MHz to 118 MHz	-54	100 kHz
118 MHz to 174 MHz	-36	100 kHz
174 MHz to 230 MHz	-54	100 kHz
230 MHz to 470 MHz	-36	100 kHz
470 MHz to 694 MHz	-54	100 kHz
694 MHz to 1 GHz	-36	100 kHz
1 GHz to 12.75 GHz	-30	1 MHz

5.1.8.2 Test Setup

The section 4.5.1 and 4.5.2 (Diagram 1, 2, 3) for test setup description. The photo of test setup please refer to ANNEX B.

5.1.8.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.9.2.

5.1.8.4 Test Result

Please refer to ANNEX A.8.

5.2 Receiver Parameters

5.2.1 Receiver categories

There have three different receiver categories for which different receiver requirements and/or corresponding limits apply.

Receiver Category

Receiver Category	Definition
Category 1	Adaptive equipment with a maximum RF output power greater than 10 dBm e.i.r.p.
Category 2	Non-adaptive equipment with a Medium Utilization (MU) factor greater than 1 % and less than or equal to 10 % or adaptive equipment and non-adaptive with a maximum RF output power of 10 dBm e.i.r.p.
Category 3	Non-adaptive equipment with a maximum Medium Utilization (MU) factor of 1 % or adaptive equipment and non-adaptive with a maximum RF output power of 0 dBm e.i.r.p.

5.2.2 Receiver Spurious Emissions

5.2.2.1 Limit

Receiver spurious emissions are emissions at any frequency when the equipment is in receive mode.

The spurious emissions of the transmitter shall not exceed the values in following tables for the EUT in this report.

Frequency range	Maximum power (dBm)	Bandwidth
30 MHz to 1 GHz	-57	100 KHz
1 GHz to 12.75 GHz	-47	1 MHz

5.2.2.2 Test Setup

The section 4.5.1 (Diagram 1) for test setup description. The photo of test setup please refer to ANNEX B.

5.2.2.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.10.2.

5.2.2.4 Test Result

Please refer to ANNEX A.9.

5.2.3 Receiver Blocking

5.2.3.1 Limit

While maintaining the minimum performance criteria as defined in clause 4.3.1.12.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined for the applicable receiver category provided in next table.

Receiver Category 1 equipment

Wanted signal mean power from companion device (dBm) (see notes 1 and 4)	Blocking signal frequency(MHz)	Blocking signal power (dBm) (see note 4)	Type of blocking signal
(-133 dBm + 10 × log ₁₀ (OCBW)) or -68 dBm whichever is less (see note 2)	2 380	-34	CW
	2 504	-34	CW
(-139 dBm + 10 × log ₁₀ (OCBW)) or -74 dBm whichever is less (see note 3)	2 300	-34	CW
	2 330	-34	CW
	2 360	-34	CW
	2 524	-34	CW
	2 584	-34	CW
	2 674	-34	CW

Note ¹: OCBW is in Hz.

Note ²: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{\min} + 26$ dB where P_{\min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal. P_{\min} is the minimum level of wanted signal (in dBm) required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

Note ³: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{\min} + 20$ dB where P_{\min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

Note ⁴: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

Receiver Category 2 equipment

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + $10 \times \log_{10}(\text{OCBW})$ + 10 dB) or (-74 dBm + 10 dB) whichever is less (see note 2)	2 380	-34	CW
	2 504	-34	CW
	2 300	-34	CW
	2 584	-34	CW

NOTE ¹: OCBW is in Hz.

NOTE ²: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{\min} + 26$ dB where P_{\min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE ³: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

Receiver Category 3 equipment

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency(MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + $10 \times \log_{10}(\text{OCBW})$ + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2)	2 380	-34	CW
	2 504	-34	CW
	2 300	-34	CW
	2 584	-34	CW

NOTE ¹: OCBW is in Hz.

NOTE ²: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{\min} + 30$ dB where P_{\min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

NOTE ³: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

5.2.3.2 Test Setup

See the section 4.5.3 (Diagram 4) for test setup description. The photo of test setup please refer to ANNEX B.

5.2.3.3 Test Procedure

Reference to ETSI EN 300 328 V2.2.2 clause 5.4.11.2.

5.2.3.4 Test Result

Please refer to ANNEX A.10.

5.3 Other Parameters

5.3.1 Geo-location capability

5.3.1.1 Requirements

The geographical location determined by the equipment as defined in following section (5.3.1.2) shall not be accessible to the user.

5.3.1.2 Definition

Geo-location capability is a feature of the equipment to determine its geographical location with the purpose to

configure itself according to the regulatory requirements applicable at the geographical location where it operates.

The geo-location capability may be present in the equipment or in an external device (temporary) associated with the equipment operating at the same geographical location during the initial power up of the equipment. The geographical location may also be available in equipment already installed and operating at the same geographical location.

5.3.1.3 Test Result

Note: Not applicable.

ANNEX A TEST RESULT

A.1 RF output power

Test Data

Note 1: EIRP Power = Conducted Power + Antenna Gain

Modulation Mode			802.11b		
Limit			20 dBm		
Test Result					
Test Method	Test Conditions		EIRP (dBm)		
<div><input type="checkbox"/> Radiated</div> <div><input checked="" type="checkbox"/> Conducted</div>	Voltage	Temperature	Low Channel	Middle Channel	High Channel
	NV		EIRP	EIRP	EIRP
		NT	14.6	15.4	16.0
		LT	14.3	15.4	15.6
		HT	14.5	15.3	15.9
Test Verdict			Pass		

Modulation Mode			802.11g		
Limit			20 dBm		
Test Result					
Test Method	Test Conditions		EIRP (dBm)		
<div><input type="checkbox"/> Radiated</div> <div><input checked="" type="checkbox"/> Conducted</div>	Voltage	Temperature	Low Channel	Middle Channel	High Channel
			EIRP	EIRP	EIRP
	NV	NT	13.2	14.0	14.6
		LT	13.1	13.8	14.6
		HT	13.0	13.6	14.7
Test Verdict			Pass		

Modulation Mode			802.11n(20 MHz)		
Limit			20 dBm		
Test Result					
Test Method	Test Conditions		EIRP (dBm)		
<div><input type="checkbox"/> Radiated</div> <div><input checked="" type="checkbox"/> Conducted</div>	Voltage	Temperature	Low Channel	Middle Channel	High Channel
			EIRP	EIRP	EIRP
	NV	NT	13.0	13.8	14.4
		LT	13.1	13.4	14.1
		HT	12.6	14.0	14.2
Test Verdict			Pass		

Bursts Power List

802.11b: Low Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
14.4	0.000	1.226	1.226	0.779
14.1	2.005	3.230	1.225	0.779
13.7	4.009	5.234	1.225	0.797
14.1	6.031	7.256	1.225	0.761
14.6	8.017	9.242	1.225	0.762
14.3	10.004	11.229	1.225	0.779
14.0	12.008	13.233	1.225	0.797
13.9	14.030	15.255	1.225	0.770
14.1	16.025	17.250	1.225	0.770
14.6	18.020	19.246	1.226	0.761
14.2	20.007	21.232	1.225	0.788
13.8	22.020	23.245	1.225	0.761
14.1	24.006	25.231	1.225	0.779
14.3	26.010	27.235	1.225	0.788
14.5	28.023	29.249	1.226	0.752
14.1	30.001	31.226	1.225	0.788
13.7	32.014	33.239	1.225	0.788
14.1	34.027	35.252	1.225	0.770
14.5	36.022	37.247	1.225	0.762
14.3	38.009	39.234	1.225	0.788
14.1	40.022	41.247	1.225	0.761
13.8	42.008	43.233	1.225	0.797
14.1	44.030	45.255	1.225	0.770
14.6	46.025	47.251	1.226	0.770
14.2	48.021	49.246	1.225	0.761
13.9	50.007	51.232	1.225	0.788
14.0	52.020	53.245	1.225	0.761
14.3	54.006	55.231	1.225	0.770
14.5	56.001	57.227	1.226	0.779
14.1	58.006	59.231	1.225	0.770
13.8	60.001	61.226	1.225	0.788
14.1	62.014	63.239	1.225	0.779
14.5	64.018	65.243	1.225	0.762
14.4	66.005	67.230	1.225	0.779

802.11b: Middle Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
15.2	0.000	1.225	1.225	0.788
15.3	2.013	3.239	1.226	0.770
15.0	4.009	5.234	1.225	0.761
14.6	5.995	7.220	1.225	0.779
15.0	7.999	9.224	1.225	0.778
15.4	10.002	11.228	1.226	0.770
15.1	11.998	13.223	1.225	0.797
14.9	14.020	15.245	1.225	0.770
14.7	16.015	17.240	1.225	0.770
15.0	18.010	19.235	1.225	0.758
15.0	19.993	21.218	1.225	0.780
15.4	21.998	23.224	1.226	0.794
15.2	24.018	25.243	1.225	0.761
14.9	26.004	27.229	1.225	0.757
14.7	27.986	29.211	1.225	0.788
14.9	29.999	31.224	1.225	0.780
15.4	32.004	33.230	1.226	0.772
15.0	34.002	35.227	1.225	0.779
14.8	36.006	37.231	1.225	0.758
14.9	37.989	39.214	1.225	0.779
15.0	39.993	41.218	1.225	0.789
15.3	42.007	43.233	1.226	0.762
15.0	43.995	45.220	1.225	0.794
14.6	46.014	47.239	1.225	0.779
14.9	48.018	49.243	1.225	0.761
15.3	50.004	51.230	1.226	0.769
15.2	51.999	53.225	1.226	0.779
14.9	54.004	55.229	1.225	0.770
14.6	55.999	57.224	1.225	0.779
14.9	58.003	59.228	1.225	0.766
15.4	59.994	61.220	1.226	0.779
15.0	61.999	63.224	1.225	0.788
14.9	64.012	65.237	1.225	0.770
14.9	66.007	67.232	1.225	0.761

802.11b: High Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
15.2	0.000	1.225	1.225	0.846
15.7	2.071	3.296	1.225	0.724
15.8	4.020	5.246	1.226	1.044
15.9	6.290	7.516	1.226	0.813
15.9	8.329	9.555	1.226	0.771
16.0	10.326	11.552	1.226	0.653
15.9	12.205	13.431	1.226	0.600
15.9	14.031	15.257	1.226	0.747
15.9	16.004	17.230	1.226	0.795
15.2	18.025	19.250	1.225	1.299
15.8	20.549	21.775	1.226	0.413
15.5	22.188	23.413	1.225	0.663
15.5	24.076	25.301	1.225	0.703
15.7	26.004	27.230	1.226	0.807
15.4	28.037	29.262	1.225	0.739
15.5	30.001	31.226	1.225	0.891
15.3	32.117	33.342	1.225	0.676
15.5	34.018	35.243	1.225	0.766
15.5	36.009	37.234	1.225	0.766
16.0	38.000	39.226	1.226	0.776
15.3	40.002	41.227	1.225	0.804
15.3	42.031	43.256	1.225	0.757
15.4	44.013	45.238	1.225	0.761
15.7	45.999	47.225	1.226	1.065
15.5	48.290	49.515	1.225	0.508
15.5	50.023	51.248	1.225	0.775
15.5	52.023	53.248	1.225	0.766
15.3	54.014	55.239	1.225	0.757
15.1	55.996	57.221	1.225	0.804
15.4	58.025	59.250	1.225	0.791
15.9	60.041	61.267	1.226	0.735
16.0	62.002	63.228	1.226	0.797
16.0	64.025	65.251	1.226	0.773
15.9	66.024	67.250	1.226	0.765

802.11g: Low Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
13.1	0.000	0.546	0.546	0.460
13.1	1.006	1.552	0.546	0.469
13.1	2.021	2.567	0.546	0.433
13.1	3.000	3.546	0.546	0.460
13.1	4.006	4.552	0.546	0.478
13.1	5.030	5.576	0.546	0.442
13.1	6.018	6.564	0.546	0.442
13.2	7.006	7.552	0.546	0.478
13.1	8.030	8.576	0.546	0.442
13.1	9.018	9.564	0.546	0.442
13.1	10.006	10.552	0.546	0.469
13.1	11.021	11.567	0.546	0.442
13.1	12.009	12.555	0.546	0.460
13.1	13.015	13.561	0.546	0.442
13.1	14.003	14.549	0.546	0.451
13.1	15.000	15.546	0.546	0.460
13.1	16.006	16.553	0.547	0.450
13.1	17.003	17.549	0.546	0.451
13.1	18.000	18.546	0.546	0.460
13.1	19.006	19.552	0.546	0.469
13.1	20.021	20.568	0.547	0.432
13.1	21.000	21.546	0.546	0.461
13.1	22.007	22.553	0.546	0.451
13.1	23.004	23.549	0.545	0.452
13.1	24.001	24.547	0.546	0.460
13.1	25.007	25.553	0.546	0.478
13.1	26.031	26.577	0.546	0.451
13.1	27.028	27.574	0.546	0.442
13.1	28.016	28.562	0.546	0.451
13.1	29.013	29.559	0.546	0.460
13.1	30.019	30.565	0.546	0.442
13.1	31.007	31.553	0.546	0.451
13.1	32.004	32.550	0.546	0.460
13.1	33.010	33.556	0.546	0.460

802.11g: Middle Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
13.9	0.000	0.545	0.545	0.439
13.9	0.984	1.529	0.545	0.448
13.9	1.977	2.522	0.545	0.466
13.9	2.988	3.532	0.544	0.467
13.9	3.999	4.544	0.545	0.439
13.9	4.983	5.527	0.544	0.458
13.8	5.985	6.529	0.544	0.458
14.0	6.987	7.531	0.544	0.476
13.9	8.007	8.552	0.545	0.448
13.9	9.000	9.544	0.544	0.440
13.9	9.984	10.528	0.544	0.458
13.9	10.986	11.530	0.544	0.467
13.9	11.997	12.542	0.545	0.448
13.9	12.990	13.534	0.544	0.467
13.9	14.001	14.545	0.544	0.440
13.8	14.985	15.529	0.544	0.458
13.9	15.987	16.531	0.544	0.476
13.9	17.007	17.551	0.544	0.449
13.9	18.000	18.544	0.544	0.440
13.9	18.984	19.528	0.544	0.458
13.9	19.986	20.530	0.544	0.476
13.9	21.006	21.550	0.544	0.458
13.9	22.008	22.552	0.544	0.449
13.8	23.001	23.545	0.544	0.440
13.9	23.985	24.529	0.544	0.466
13.9	24.995	25.540	0.545	0.439
13.8	25.979	26.524	0.545	0.466
13.8	26.990	27.535	0.545	0.475
13.8	28.010	28.555	0.545	0.439
13.8	28.994	29.539	0.545	0.439
13.9	29.978	30.523	0.545	0.466
13.8	30.989	31.534	0.545	0.466
13.8	32.000	32.545	0.545	0.439
13.8	32.984	33.529	0.545	0.466

802.11g: High Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
14.7	0.000	0.545	0.545	0.448
14.6	0.993	1.537	0.544	0.449
14.7	1.986	2.531	0.545	0.475
14.7	3.006	3.550	0.544	0.458
14.6	4.008	4.552	0.544	0.449
14.7	5.001	5.545	0.544	0.449
14.7	5.994	6.538	0.544	0.440
14.6	6.978	7.522	0.544	0.467
14.6	7.989	8.533	0.544	0.458
14.7	8.991	9.535	0.544	0.440
14.6	9.975	10.519	0.544	0.467
14.6	10.986	11.530	0.544	0.467
14.6	11.997	12.541	0.544	0.449
14.7	12.990	13.534	0.544	0.458
14.6	13.992	14.536	0.544	0.440
14.6	14.976	15.520	0.544	0.458
14.6	15.978	16.522	0.544	0.458
14.6	16.980	17.524	0.544	0.458
14.6	17.982	18.526	0.544	0.467
14.6	18.993	19.537	0.544	0.448
14.6	19.985	20.530	0.545	0.475
14.6	21.005	21.550	0.545	0.448
14.6	21.998	22.543	0.545	0.439
14.6	22.982	23.527	0.545	0.448
14.6	23.975	24.520	0.545	0.457
14.6	24.977	25.522	0.545	0.457
14.6	25.979	26.524	0.545	0.466
14.6	26.990	27.535	0.545	0.466
14.6	28.001	28.546	0.545	0.448
14.6	28.994	29.539	0.545	0.448
14.6	29.987	30.532	0.545	0.466
14.6	30.998	31.543	0.545	0.439
14.6	31.982	32.527	0.545	0.466
14.6	32.993	33.538	0.545	0.448

802.11n(20 MHz): Low Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
12.8	0.000	0.550	0.550	0.442
12.9	0.992	1.542	0.550	0.460
12.9	2.002	2.552	0.550	0.442
12.9	2.994	3.544	0.550	0.460
12.9	4.004	4.554	0.550	0.442
13.1	4.996	5.546	0.550	0.442
13.0	5.988	6.538	0.550	0.469
13.0	7.007	7.557	0.550	0.442
13.0	7.999	8.549	0.550	0.442
13.1	8.991	9.541	0.550	0.469
13.0	10.010	10.560	0.550	0.451
13.1	11.011	11.561	0.550	0.433
13.1	11.994	12.544	0.550	0.442
13.0	12.986	13.537	0.551	0.441
13.0	13.978	14.528	0.550	0.461
13.0	14.989	15.539	0.550	0.469
13.0	16.008	16.557	0.549	0.452
12.9	17.009	17.559	0.550	0.442
12.9	18.001	18.551	0.550	0.433
12.9	18.984	19.534	0.550	0.451
12.9	19.985	20.535	0.550	0.451
12.8	20.986	21.536	0.550	0.451
12.8	21.987	22.537	0.550	0.442
12.8	22.979	23.529	0.550	0.451
12.8	23.980	24.530	0.550	0.460
12.7	24.990	25.540	0.550	0.469
12.7	26.009	26.559	0.550	0.451
12.7	27.010	27.560	0.550	0.451
12.7	28.011	28.561	0.550	0.451
12.8	29.012	29.562	0.550	0.442
12.8	30.004	30.554	0.550	0.451
12.8	31.005	31.555	0.550	0.451
12.9	32.006	32.556	0.550	0.451
12.9	33.007	33.557	0.550	0.451

802.11n(20 MHz): Middle Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
13.7	0.000	0.549	0.549	0.448
13.7	0.997	1.546	0.549	0.439
13.7	1.985	2.534	0.549	0.466
13.7	3.000	3.549	0.549	0.457
13.7	4.006	4.555	0.549	0.439
13.7	4.994	5.543	0.549	0.439
13.6	5.982	6.531	0.549	0.475
13.6	7.006	7.555	0.549	0.448
13.6	8.003	8.552	0.549	0.448
13.6	9.000	9.549	0.549	0.457
14.0	10.006	10.555	0.549	0.439
13.6	10.994	11.543	0.549	0.430
13.8	11.973	12.521	0.548	0.485
13.7	13.006	13.554	0.548	0.429
13.7	13.983	14.532	0.549	0.458
13.7	14.990	15.539	0.549	0.439
13.6	15.978	16.527	0.549	0.448
13.7	16.975	17.524	0.549	0.457
13.6	17.981	18.530	0.549	0.475
13.7	19.005	19.554	0.549	0.439
13.6	19.993	20.542	0.549	0.439
13.6	20.981	21.530	0.549	0.457
13.6	21.987	22.536	0.549	0.457
13.6	22.993	23.542	0.549	0.439
13.6	23.981	24.530	0.549	0.457
13.6	24.987	25.536	0.549	0.466
13.6	26.002	26.550	0.548	0.449
13.6	26.999	27.548	0.549	0.457
13.7	28.005	28.553	0.548	0.440
13.6	28.993	29.542	0.549	0.439
13.6	29.981	30.530	0.549	0.457
13.6	30.987	31.536	0.549	0.466
13.6	32.002	32.550	0.548	0.449
13.6	32.999	33.548	0.549	0.448

802.11n(20 MHz): High Channel

Burst RMS Power	Start Time	Stop Time	Tx_on	Tx_off
dBm	ms	ms	ms	ms
14.0	0.000	0.549	0.549	0.457
14.1	1.006	1.555	0.549	0.457
14.1	2.012	2.561	0.549	0.466
14.1	3.027	3.576	0.549	0.457
14.4	4.033	4.582	0.549	0.448
14.1	5.030	5.578	0.548	0.440
14.1	6.018	6.567	0.549	0.439
14.2	7.006	7.555	0.549	0.448
14.2	8.003	8.552	0.549	0.457
14.2	9.009	9.557	0.548	0.476
14.2	10.033	10.581	0.548	0.449
14.2	11.030	11.578	0.548	0.440
14.2	12.018	12.566	0.548	0.449
14.2	13.015	13.563	0.548	0.458
14.3	14.021	14.569	0.548	0.440
14.3	15.009	15.557	0.548	0.476
14.3	16.033	16.581	0.548	0.449
14.4	17.030	17.578	0.548	0.449
14.4	18.027	18.575	0.548	0.449
14.4	19.024	19.572	0.548	0.440
14.4	20.012	20.560	0.548	0.467
14.4	21.027	21.575	0.548	0.458
14.4	22.033	22.581	0.548	0.449
14.4	23.030	23.578	0.548	0.448
14.4	24.026	24.575	0.549	0.457
14.4	25.032	25.581	0.549	0.448
14.3	26.029	26.578	0.549	0.439
14.3	27.017	27.566	0.549	0.448
14.4	28.014	28.563	0.549	0.466
14.4	29.029	29.578	0.549	0.439
14.3	30.017	30.566	0.549	0.448
14.3	31.014	31.563	0.549	0.457
14.3	32.020	32.569	0.549	0.439
14.3	33.008	33.557	0.549	1.339

A.2 Power spectral density

Measuring Parameter

Frequency Range		
2400 MHz to 2483.5 MHz	RBW (MHz)	10 kHz
	VBW (MHz)	30 kHz
	Sweep points	8351
	Detector mode	RMS
	Trace mode	Max Hold
	Sweep time	100s

Test Data

Note 1: The Power density is ERIP Power density, which is contain antenna gain

Modulation Mode			802.11b		
Limit			10 dBm/MHz		
Test Result					
Test Method	Test Conditions		Power density (dBm/MHz)		
<input type="checkbox"/> Radiated <input checked="" type="checkbox"/> Conducted	Temperature	Voltage	Low Channel	Middle Channel	High Channel
			Power Spectral density	Power Spectral density	Power Spectral density
	NT	NV	6.23	7.00	7.62
Test Verdict			Pass		

Modulation Mode			802.11g		
Limit			10 dBm/MHz		
Test Result					
Test Method	Test Conditions		Power density (dBm/MHz)		
<div><input type="checkbox"/> Radiated</div> <div><input checked="" type="checkbox"/> Conducted</div>	Temperature	Voltage	Low Channel	Middle Channel	High Channel
			Power Spectral density	Power Spectral density	Power Spectral density
		NT	NV	2.54	3.36
Test Verdict			Pass		

Modulation Mode			802.11n(20 MHz)		
Limit			10 dBm/MHz		
Test Result					
Test Method	Test Conditions		Power density (dBm/MHz)		
<div><input type="checkbox"/> Radiated</div> <div><input checked="" type="checkbox"/> Conducted</div>	Temperature	Voltage	Low Channel	Middle Channel	High Channel
			Power Spectral density	Power Spectral density	Power Spectral density
		NT	NV	2.20	2.97
Test Verdict			Pass		

A.3 Duty Cycle, Tx-sequence, Tx-gap

Note: The maximum value of Duty Cycle declared by the supplier.

Test Data

Duty Cycle (%)	Limit Duty Cycle (%) ^{Note1}	Number of Bursts	Minimum Tx-On (ms)	Maximum Tx-On (ms)	Minimum Tx-Off (ms)	Maximum Tx-Off (ms)	Measurement Time (ms)	Comment
--	--	--	--	--	--	--	--	--

Note: Not applicable.

A.4 Medium Utilization (MU) factor

Medium Utilization (MU) (%)	Limit Medium Utilization (MU) (%)	Verdict
--	10	--

Note: Not applicable.

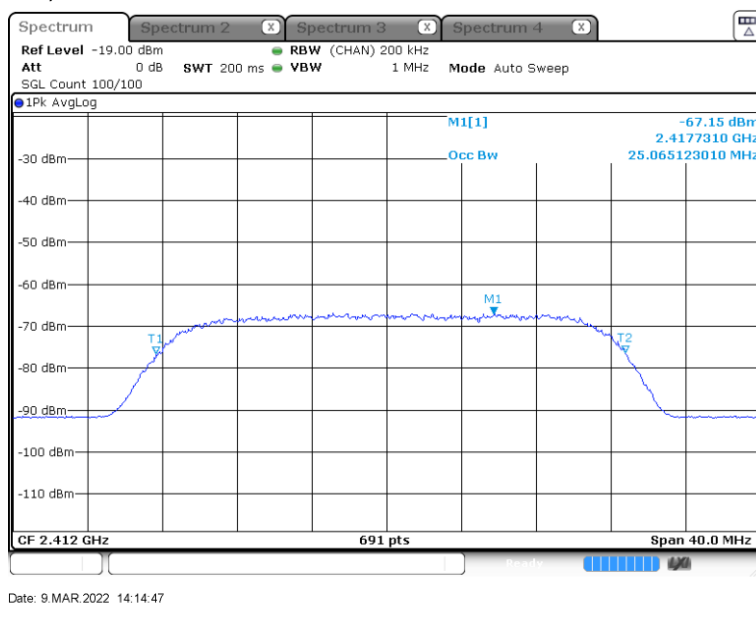
A.5 Adaptivity (adaptive equipment using modulations other than FHSS)

Test Method and Interference threshold level

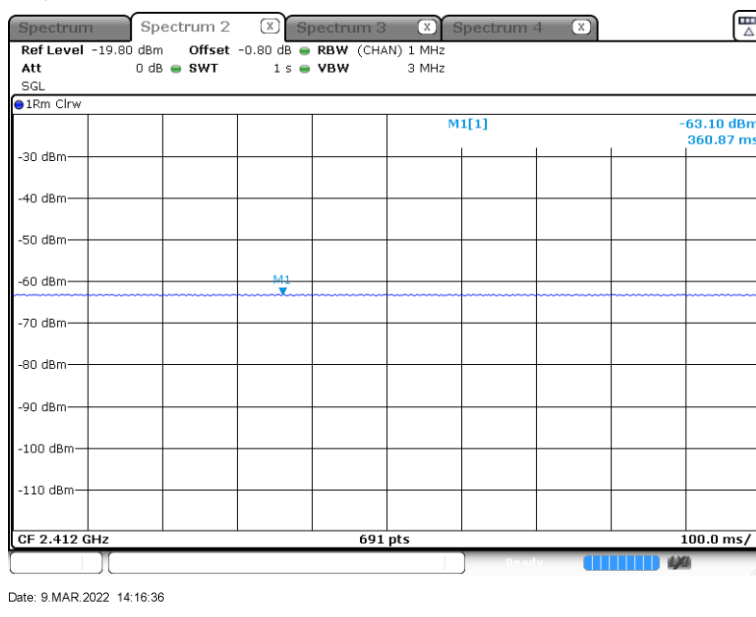
Test Method	Interference threshold level
<input type="checkbox"/> Radiated <input checked="" type="checkbox"/> Conducted	<p>The maximum EIRP power is 14.6 dBm (802.11b Low Channel) and antenna gain is 1.5dBi.</p> <p>Threshold level= $-70 \text{ dBm/MHz} + G (1.5 \text{ dBi}) + 10 \times \log_{10} (100 \text{ mW} / P_{\text{out}}) = -63.1 \text{ dBm/MHz}$. The interference signal level to the UUT is -63.1 dBm/MHz</p>

Test plot

99% Bandwidth (802.11b)



Threshold level (802.11b)



Test DataTest step 1

Test	Test Result							
Temperature	Voltage	Test Mode	Frequency	COT (ms)	Limit (ms)	CCA Time (μs)	Idle Period (ms)	Limit (μs)
NT	NV	802.11b	2412	1.23	13	95	0.10	18
			2472	1.23	13	256	0.26	18
		802.11g	2412	0.55	13	118	0.12	18
			2472	0.55	13	79	0.08	18
		802.11n (20 MHz)	2412	0.55	13	33	0.03	18
			2472	0.55	13	355	0.36	18
Note: Wanted signal mean power from companion device is -50 dBm/MHz.								
Test Verdict	Pass							

Test step 2

Note: The least monitoring time during the adaptivity test is 60s, please refer to the test plot as shown below.

Test step 2 2nd

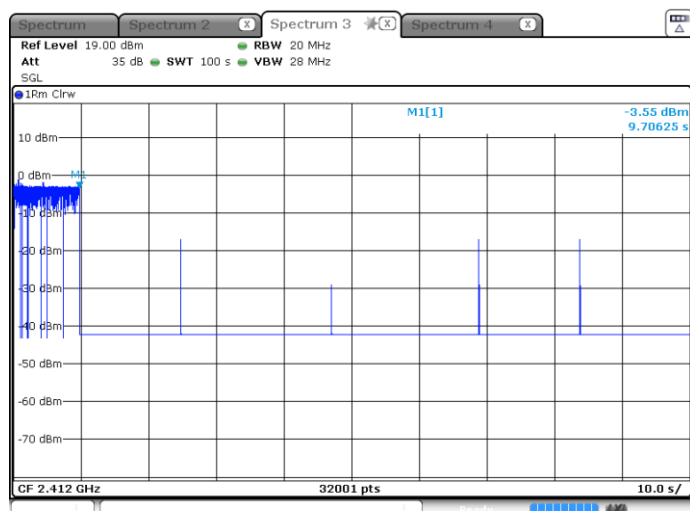
Temperature	Voltage	Test Mode	Frequency (MHz)	Number of Bursts	Short Signalling (%)	Limit (%)
NT	NV	802.11b	2412	2	3.4784	10
			2472	3	5.2176	10
		802.11g	2412	2	5.7972	10
			2472	0	0.0000	10
		802.11n (20 MHz)	2412	1	1.4492	10
			2472	0	0.0000	10

The step 3

Note: The least monitoring time during the blocking test is 60s, please refer to the test plot as shown below.

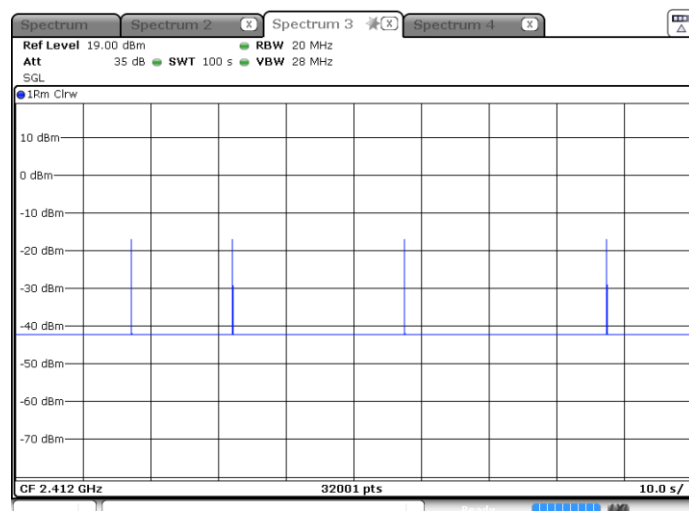
Test Plots

802.11b: Low Channel Step 2 Interferer on /Blocker off



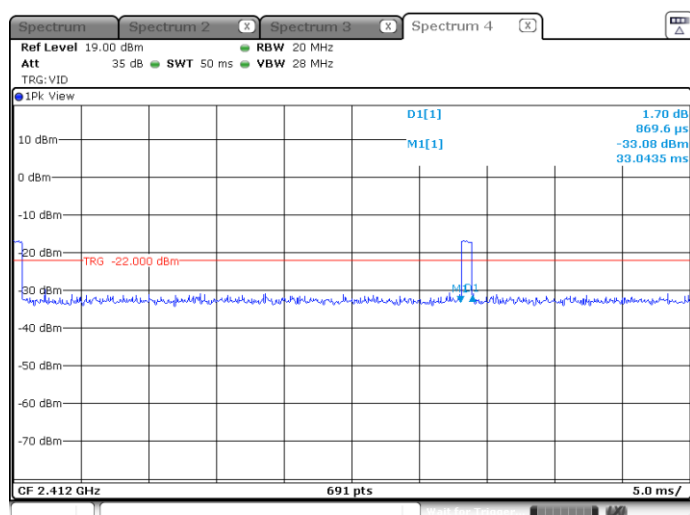
Date: 9 MAR 2022 10:28:06

802.11b: Low Channel Step 3 Interferer on /Blocker on



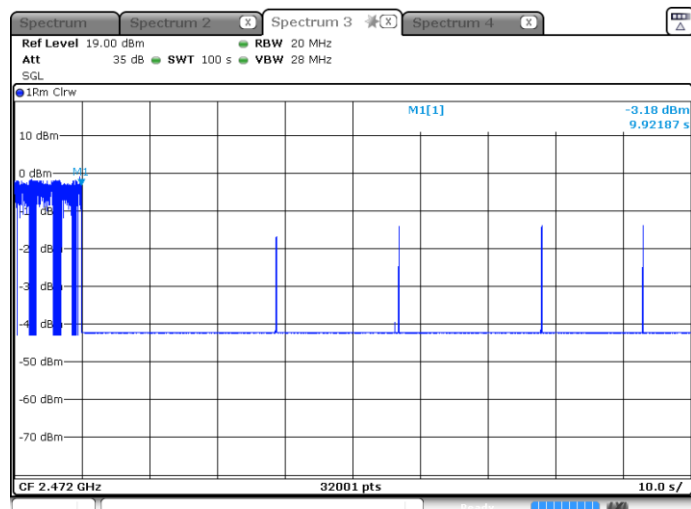
Date: 9 MAR 2022 10:30:01

802.11b: Low Channel Short Signalling



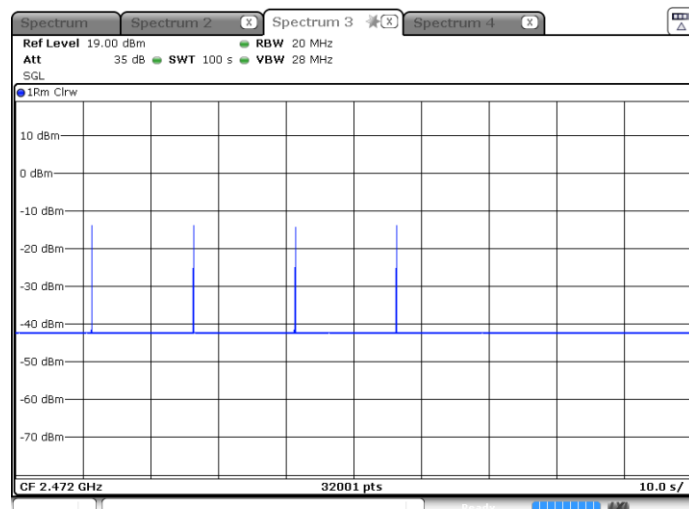
Date: 9 MAR 2022 10:32:54

802.11b: High Channel Step 2 Interferer on /Blocker off



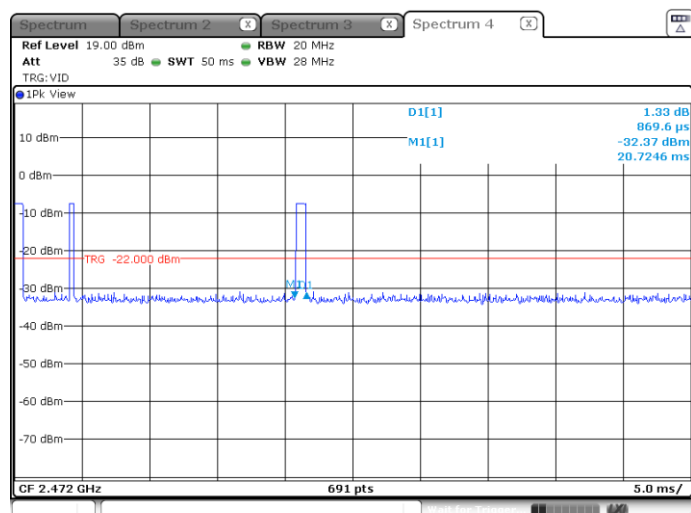
Date: 9 MAR 2022 10:37:01

802.11b: High Channel Step 3 Interferer on /Blocker on



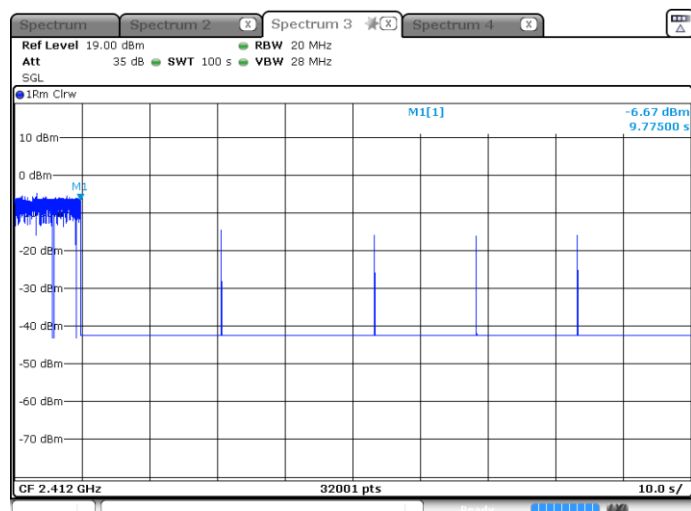
Date: 9 MAR 2022 10:38:57

802.11b: High Channel Short Signalling



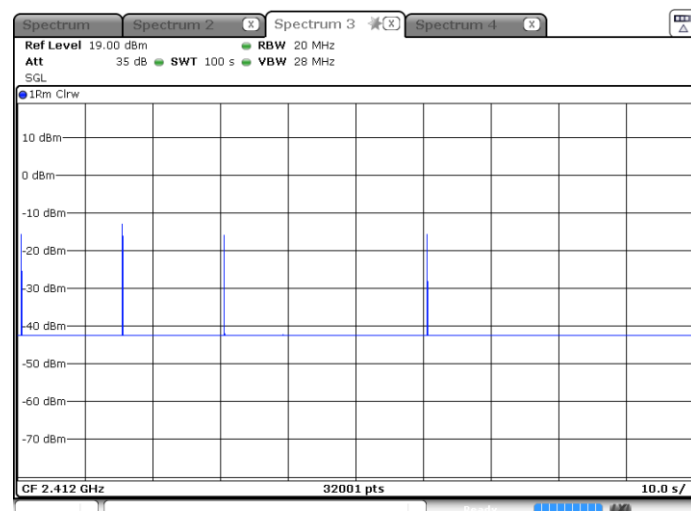
Date: 9 MAR 2022 10:42:24

802.11g: Low Channel Step 2 Interferer on /Blocker off



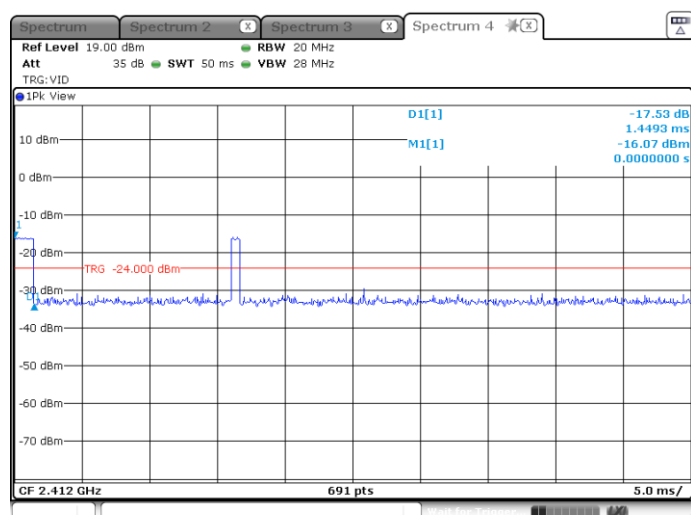
Date: 9 MAR 2022 10:49:49

802.11g: Low Channel Step 3 Interferer on /Blocker on



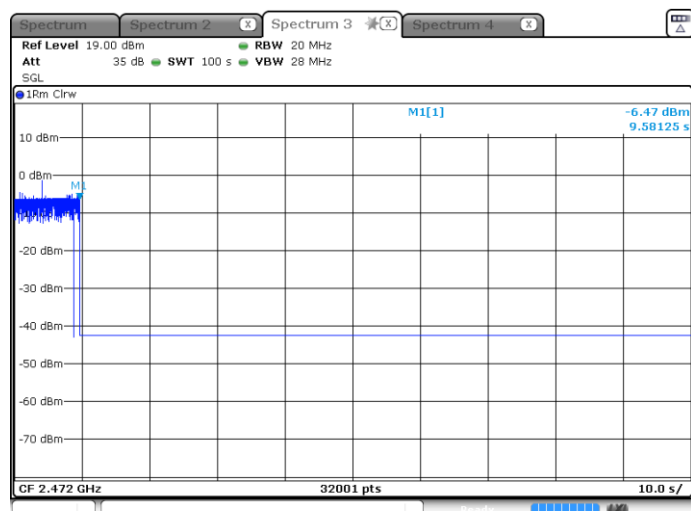
Date: 9 MAR 2022 10:51:41

802.11g: Low Channel Short Signalling



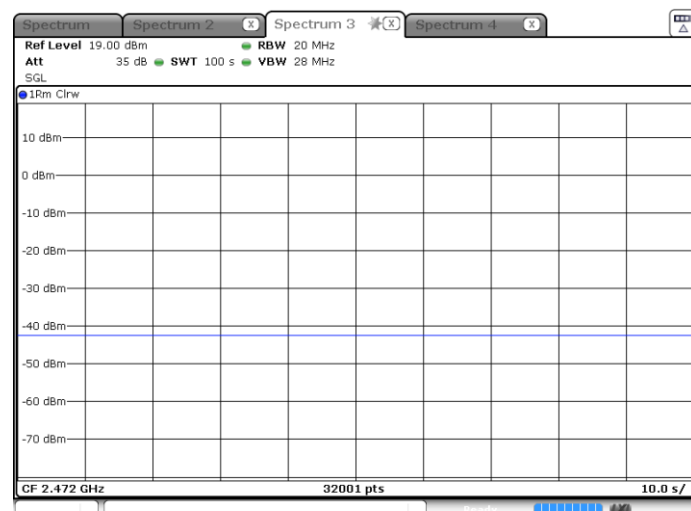
Date: 9 MAR 2022 10:53:43

802.11g: High Channel Step 2 Interferer on /Blocker off



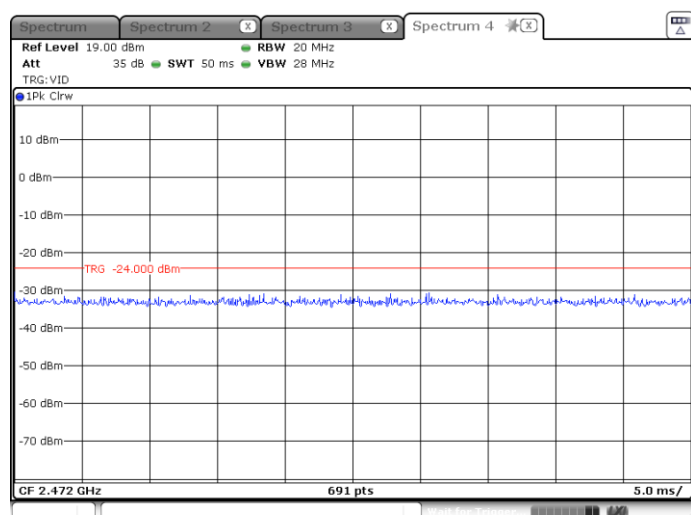
Date: 9 MAR 2022 10:56:13

802.11g: High Channel Step 3 Interferer on /Blocker on

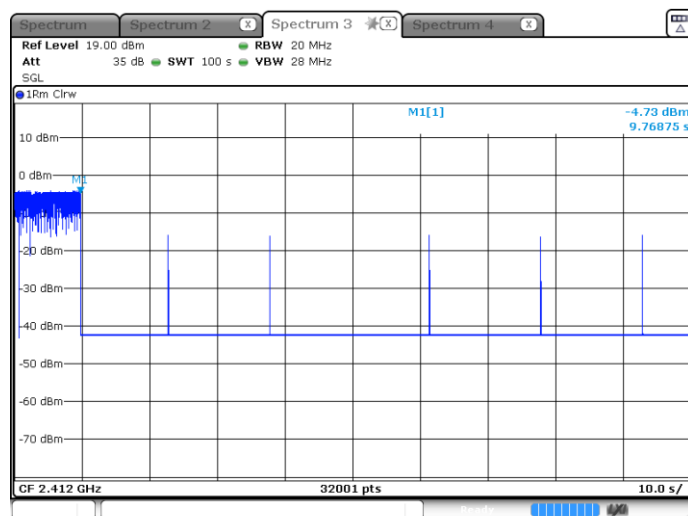
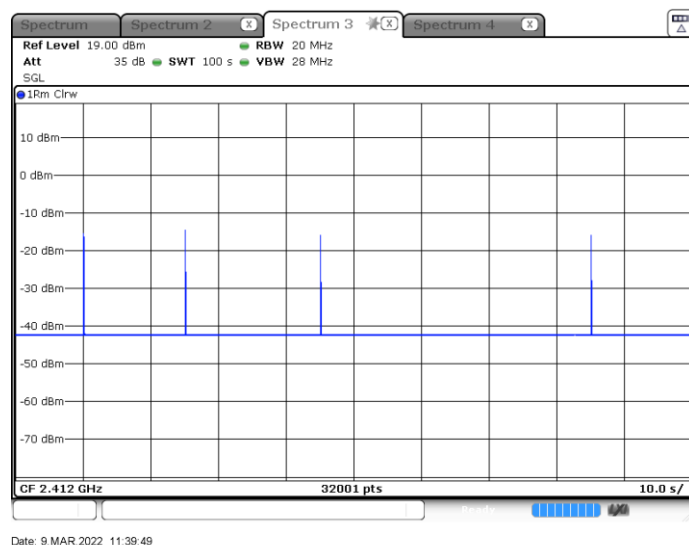


Date: 9 MAR 2022 10:58:07

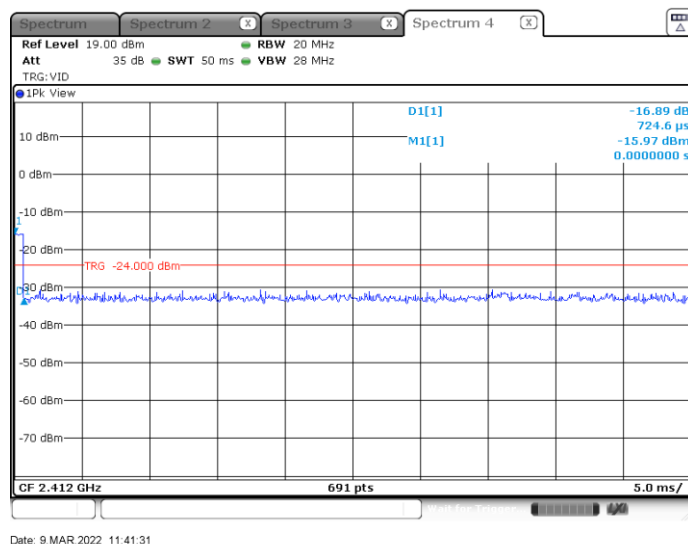
802.11g: High Channel Short Signalling

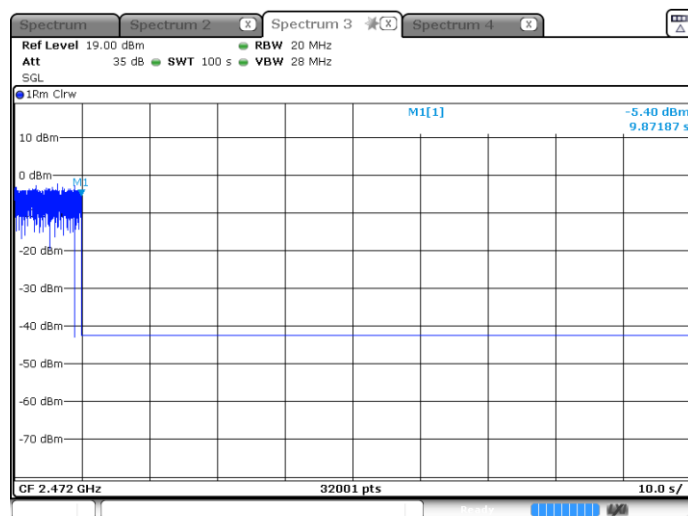


Date: 9 MAR 2022 10:58:28

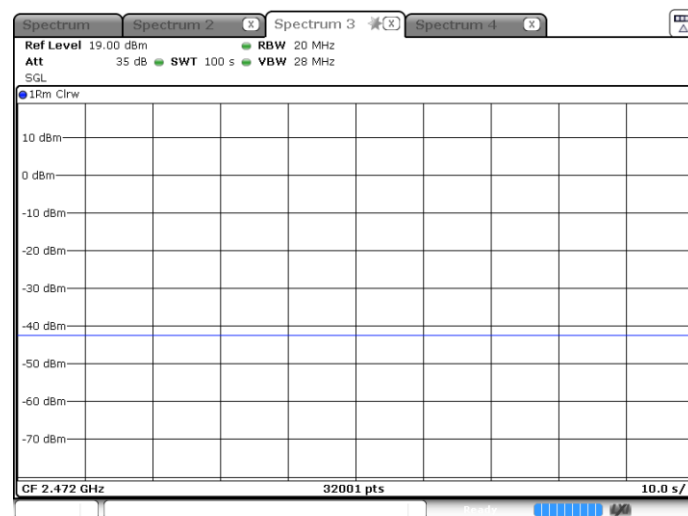
802.11n (20 MHz): Low Channel Step 2 Interferer on /
Blocker off802.11n (20 MHz): Low Channel Step 3 Interferer on /
Blocker on

802.11n(20 MHz): Low Channel Short Signalling



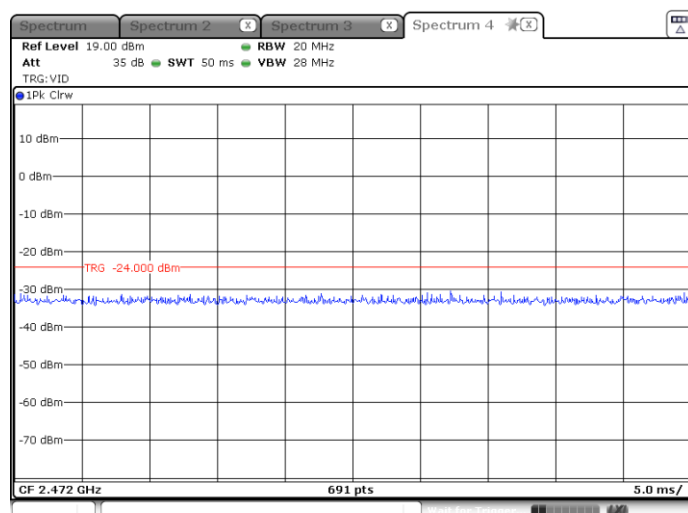
802.11n (20 MHz): High Channel Step 2 Interferer on /
Blocker off

Date: 9 MAR 2022 11:00:38

802.11n (20 MHz): High Channel Step 3 Interferer on /
Blocker on

Date: 9 MAR 2022 11:02:36

802.11n(20 MHz): High Channel Short Signalling



Date: 9 MAR 2022 11:02:48

A.6 Occupied Channel Bandwidth

Measuring Parameter

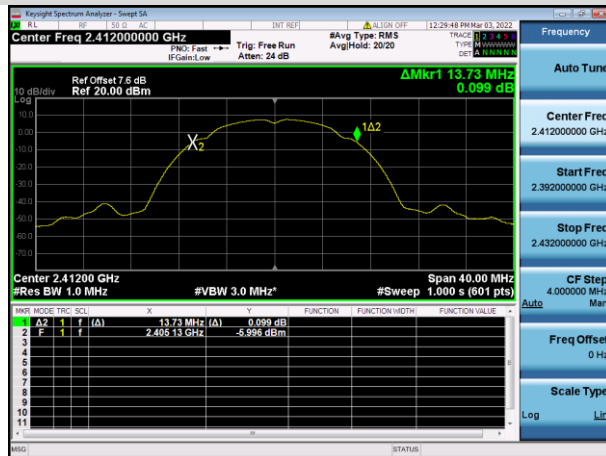
Centre Frequency	The centre frequency of the channel under test
RBW (MHz)	1 MHz
VBW (MHz)	3 MHz
Span (MHz)	40 MHz (for 20 MHz channel), 80 MHz (for 40 MHz channel)
Detector mode	RMS
Trace mode	Max Hold
Sweep time	Auto
Test Method	<input type="checkbox"/> Radiated <input checked="" type="checkbox"/> Conducted

Test Data

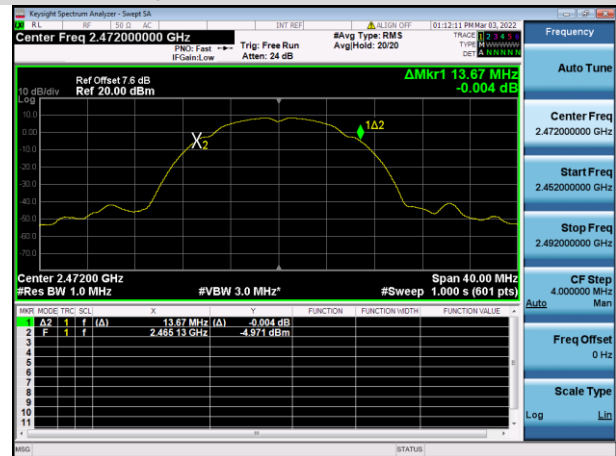
Test Conditions		Test Mode	DUT Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Lower Band Edge (MHz)	Upper Band Edge (MHz)	Limit (MHz)
Temperature	Voltage						
NT	NV	802.11b	2412	13.73	2405.133301	2418.863301	Within
			2472	13.67	2465.133301	2478.803301	The Band
		802.11g	2412	16.93	2403.533447	2420.463447	2400
			2472	16.93	2463.533447	2480.463447	MHz to
		802.11n (20 MHz)	2412	17.87	2403.06665	2420.936650	2483.5
			2472	17.80	2463.06665	2480.866650	MHz
Test Verdict		Pass					

Test Plots

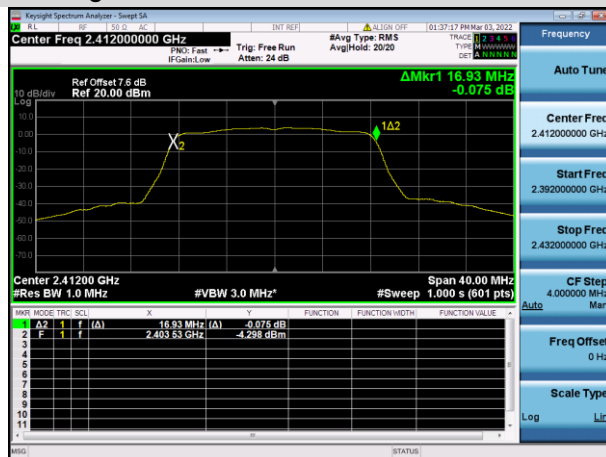
802.11b: Low Channel



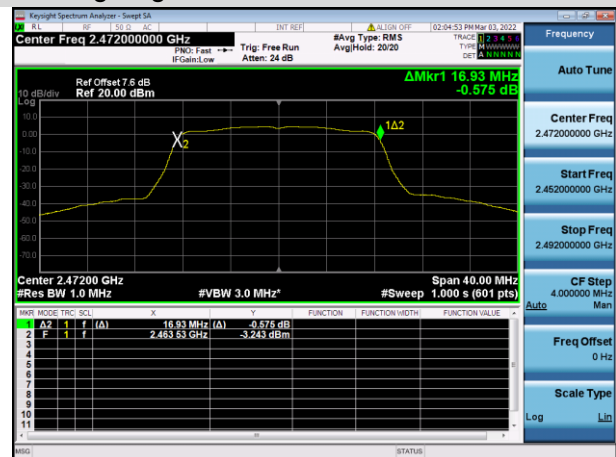
802.11b: High Channel



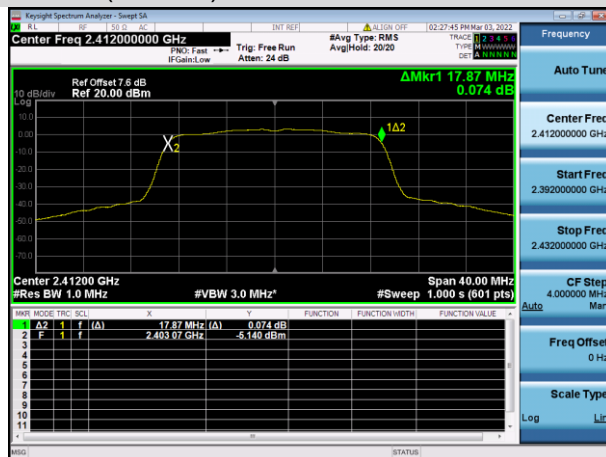
802.11g: Low Channel



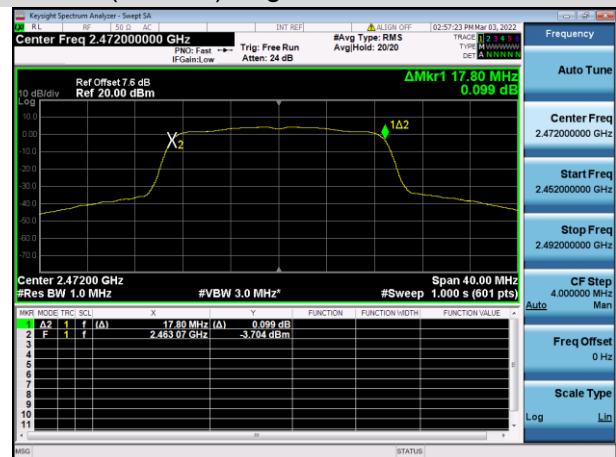
802.11g: High Channel



802.11n(20 MHz): Low Channel



802.11n(20 MHz): High Channel



A.7 Transmitter unwanted emissions in the out-of-band domain

Test Data

802.11b

DUT Frequency (MHz)	Nominal Bandwidth (MHz)	Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2412	20	2380.0	-46.478	-10	PASS
2412	20	2381.0	-46.353	-10	PASS
2412	20	2382.0	-46.347	-10	PASS
2412	20	2383.0	-45.678	-10	PASS
2412	20	2384.0	-46.619	-10	PASS
2412	20	2385.0	-46.433	-10	PASS
2412	20	2386.0	-46.264	-10	PASS
2412	20	2387.0	-46.002	-10	PASS
2412	20	2388.0	-45.561	-10	PASS
2412	20	2389.0	-45.317	-10	PASS
2412	20	2390.0	-45.611	-10	PASS
2412	20	2391.0	-46.024	-10	PASS
2412	20	2392.0	-45.802	-10	PASS
2412	20	2393.0	-45.309	-10	PASS
2412	20	2394.0	-44.596	-10	PASS
2412	20	2395.0	-42.608	-10	PASS
2412	20	2396.0	-42.639	-10	PASS
2412	20	2397.0	-39.961	-10	PASS
2412	20	2398.0	-37.707	-10	PASS
2412	20	2399.0	-39.244	-10	PASS
2412	20	2400.0	-41.188	-10	PASS
2412	20	2360.0	-46.186	-20	PASS
2412	20	2361.0	-46.319	-20	PASS
2412	20	2362.0	-46.399	-20	PASS
2412	20	2363.0	-46.333	-20	PASS
2412	20	2364.0	-46.421	-20	PASS
2412	20	2365.0	-46.441	-20	PASS
2412	20	2366.0	-46.566	-20	PASS
2412	20	2367.0	-46.769	-20	PASS
2412	20	2368.0	-46.372	-20	PASS
2412	20	2369.0	-46.009	-20	PASS
2412	20	2370.0	-45.973	-20	PASS
2412	20	2371.0	-45.799	-20	PASS
2412	20	2372.0	-46.229	-20	PASS
2412	20	2373.0	-46.277	-20	PASS
2412	20	2374.0	-46.090	-20	PASS

2412	20	2375.0	-45.836	-20	PASS
2412	20	2376.0	-46.376	-20	PASS
2412	20	2377.0	-46.272	-20	PASS
2412	20	2378.0	-46.634	-20	PASS
2412	20	2379.0	-46.248	-20	PASS
2472	20	2483.5	-36.643	-10	PASS
2472	20	2484.5	-41.293	-10	PASS
2472	20	2485.5	-36.524	-10	PASS
2472	20	2486.5	-39.533	-10	PASS
2472	20	2487.5	-41.873	-10	PASS
2472	20	2488.5	-42.989	-10	PASS
2472	20	2489.5	-41.890	-10	PASS
2472	20	2490.5	-44.627	-10	PASS
2472	20	2491.5	-44.853	-10	PASS
2472	20	2492.5	-45.180	-10	PASS
2472	20	2493.5	-45.174	-10	PASS
2472	20	2494.5	-45.399	-10	PASS
2472	20	2495.5	-46.036	-10	PASS
2472	20	2496.5	-45.560	-10	PASS
2472	20	2497.5	-45.027	-10	PASS
2472	20	2498.5	-45.723	-10	PASS
2472	20	2499.5	-45.803	-10	PASS
2472	20	2500.5	-45.348	-10	PASS
2472	20	2501.5	-45.841	-10	PASS
2472	20	2502.5	-45.631	-10	PASS
2472	20	2503.5	-45.705	-10	PASS
2472	20	2504.5	-45.830	-20	PASS
2472	20	2505.5	-45.886	-20	PASS
2472	20	2506.5	-45.585	-20	PASS
2472	20	2507.5	-45.849	-20	PASS
2472	20	2508.5	-45.882	-20	PASS
2472	20	2509.5	-46.060	-20	PASS
2472	20	2510.5	-45.410	-20	PASS
2472	20	2511.5	-45.862	-20	PASS
2472	20	2512.5	-45.809	-20	PASS
2472	20	2513.5	-45.937	-20	PASS
2472	20	2514.5	-46.100	-20	PASS
2472	20	2515.5	-45.356	-20	PASS
2472	20	2516.5	-45.449	-20	PASS
2472	20	2517.5	-45.802	-20	PASS
2472	20	2518.5	-46.293	-20	PASS
2472	20	2519.5	-45.984	-20	PASS
2472	20	2520.5	-45.336	-20	PASS

2472	20	2521.5	-46.003	-20	PASS
2472	20	2522.5	-45.677	-20	PASS

802.11g

DUT Frequency (MHz)	Nominal Bandwidth (MHz)	Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2412	20	2380.0	-44.026	-10	PASS
2412	20	2381.0	-43.983	-10	PASS
2412	20	2382.0	-43.805	-10	PASS
2412	20	2383.0	-42.599	-10	PASS
2412	20	2384.0	-41.823	-10	PASS
2412	20	2385.0	-41.658	-10	PASS
2412	20	2386.0	-42.139	-10	PASS
2412	20	2387.0	-41.109	-10	PASS
2412	20	2388.0	-41.212	-10	PASS
2412	20	2389.0	-41.244	-10	PASS
2412	20	2390.0	-40.924	-10	PASS
2412	20	2391.0	-40.793	-10	PASS
2412	20	2392.0	-38.761	-10	PASS
2412	20	2393.0	-38.275	-10	PASS
2412	20	2394.0	-36.583	-10	PASS
2412	20	2395.0	-34.521	-10	PASS
2412	20	2396.0	-33.619	-10	PASS
2412	20	2397.0	-33.157	-10	PASS
2412	20	2398.0	-31.521	-10	PASS
2412	20	2399.0	-30.891	-10	PASS
2412	20	2400.0	-28.548	-10	PASS
2412	20	2360.0	-46.212	-20	PASS
2412	20	2361.0	-46.646	-20	PASS
2412	20	2362.0	-46.565	-20	PASS
2412	20	2363.0	-46.269	-20	PASS
2412	20	2364.0	-46.456	-20	PASS
2412	20	2365.0	-46.372	-20	PASS
2412	20	2366.0	-46.470	-20	PASS
2412	20	2367.0	-46.457	-20	PASS
2412	20	2368.0	-46.493	-20	PASS
2412	20	2369.0	-46.318	-20	PASS
2412	20	2370.0	-46.462	-20	PASS
2412	20	2371.0	-46.039	-20	PASS
2412	20	2372.0	-46.173	-20	PASS
2412	20	2373.0	-46.250	-20	PASS
2412	20	2374.0	-45.893	-20	PASS
2412	20	2375.0	-45.773	-20	PASS
2412	20	2376.0	-46.300	-20	PASS

2412	20	2377.0	-45.625	-20	PASS
2412	20	2378.0	-44.617	-20	PASS
2412	20	2379.0	-44.890	-20	PASS
2472	20	2483.5	-26.864	-10	PASS
2472	20	2484.5	-26.554	-10	PASS
2472	20	2485.5	-27.848	-10	PASS
2472	20	2486.5	-28.109	-10	PASS
2472	20	2487.5	-27.639	-10	PASS
2472	20	2488.5	-29.039	-10	PASS
2472	20	2489.5	-28.333	-10	PASS
2472	20	2490.5	-30.577	-10	PASS
2472	20	2491.5	-30.343	-10	PASS
2472	20	2492.5	-31.198	-10	PASS
2472	20	2493.5	-30.769	-10	PASS
2472	20	2494.5	-34.154	-10	PASS
2472	20	2495.5	-33.774	-10	PASS
2472	20	2496.5	-35.131	-10	PASS
2472	20	2497.5	-35.815	-10	PASS
2472	20	2498.5	-37.342	-10	PASS
2472	20	2499.5	-37.857	-10	PASS
2472	20	2500.5	-38.730	-10	PASS
2472	20	2501.5	-39.706	-10	PASS
2472	20	2502.5	-40.866	-10	PASS
2472	20	2503.5	-42.082	-10	PASS
2472	20	2504.5	-43.642	-20	PASS
2472	20	2505.5	-44.056	-20	PASS
2472	20	2506.5	-44.992	-20	PASS
2472	20	2507.5	-45.031	-20	PASS
2472	20	2508.5	-45.519	-20	PASS
2472	20	2509.5	-45.499	-20	PASS
2472	20	2510.5	-45.872	-20	PASS
2472	20	2511.5	-45.401	-20	PASS
2472	20	2512.5	-45.630	-20	PASS
2472	20	2513.5	-45.416	-20	PASS
2472	20	2514.5	-45.812	-20	PASS
2472	20	2515.5	-45.533	-20	PASS
2472	20	2516.5	-45.875	-20	PASS
2472	20	2517.5	-45.880	-20	PASS
2472	20	2518.5	-45.808	-20	PASS
2472	20	2519.5	-45.923	-20	PASS
2472	20	2520.5	-46.281	-20	PASS
2472	20	2521.5	-46.126	-20	PASS
2472	20	2522.5	-45.788	-20	PASS

802.11n(20 MHz)

DUT Frequency (MHz)	Nominal Bandwidth (MHz)	Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2412	20	2380.0	-42.261	-10	PASS
2412	20	2381.0	-41.244	-10	PASS
2412	20	2382.0	-42.763	-10	PASS
2412	20	2383.0	-41.583	-10	PASS
2412	20	2384.0	-41.552	-10	PASS
2412	20	2385.0	-40.216	-10	PASS
2412	20	2386.0	-40.081	-10	PASS
2412	20	2387.0	-39.276	-10	PASS
2412	20	2388.0	-39.792	-10	PASS
2412	20	2389.0	-39.871	-10	PASS
2412	20	2390.0	-39.525	-10	PASS
2412	20	2391.0	-39.949	-10	PASS
2412	20	2392.0	-37.863	-10	PASS
2412	20	2393.0	-37.251	-10	PASS
2412	20	2394.0	-35.077	-10	PASS
2412	20	2395.0	-33.827	-10	PASS
2412	20	2396.0	-33.004	-10	PASS
2412	20	2397.0	-32.212	-10	PASS
2412	20	2398.0	-30.071	-10	PASS
2412	20	2399.0	-29.446	-10	PASS
2412	20	2400.0	-27.655	-10	PASS
2412	20	2360.0	-46.167	-20	PASS
2412	20	2361.0	-46.529	-20	PASS
2412	20	2362.0	-45.830	-20	PASS
2412	20	2363.0	-46.500	-20	PASS
2412	20	2364.0	-46.349	-20	PASS
2412	20	2365.0	-46.315	-20	PASS
2412	20	2366.0	-46.486	-20	PASS
2412	20	2367.0	-46.144	-20	PASS
2412	20	2368.0	-46.234	-20	PASS
2412	20	2369.0	-46.128	-20	PASS
2412	20	2370.0	-46.105	-20	PASS
2412	20	2371.0	-46.110	-20	PASS
2412	20	2372.0	-46.424	-20	PASS
2412	20	2373.0	-46.350	-20	PASS
2412	20	2374.0	-46.236	-20	PASS
2412	20	2375.0	-46.005	-20	PASS
2412	20	2376.0	-45.385	-20	PASS

2412	20	2377.0	-44.611	-20	PASS
2412	20	2378.0	-44.374	-20	PASS
2412	20	2379.0	-42.349	-20	PASS
2472	20	2483.5	-26.740	-10	PASS
2472	20	2484.5	-26.250	-10	PASS
2472	20	2485.5	-27.197	-10	PASS
2472	20	2486.5	-28.152	-10	PASS
2472	20	2487.5	-26.946	-10	PASS
2472	20	2488.5	-28.681	-10	PASS
2472	20	2489.5	-29.455	-10	PASS
2472	20	2490.5	-28.270	-10	PASS
2472	20	2491.5	-29.559	-10	PASS
2472	20	2492.5	-30.531	-10	PASS
2472	20	2493.5	-29.632	-10	PASS
2472	20	2494.5	-32.749	-10	PASS
2472	20	2495.5	-33.082	-10	PASS
2472	20	2496.5	-33.092	-10	PASS
2472	20	2497.5	-35.011	-10	PASS
2472	20	2498.5	-36.075	-10	PASS
2472	20	2499.5	-36.164	-10	PASS
2472	20	2500.5	-37.195	-10	PASS
2472	20	2501.5	-38.526	-10	PASS
2472	20	2502.5	-40.040	-10	PASS
2472	20	2503.5	-40.482	-10	PASS
2472	20	2504.5	-42.203	-20	PASS
2472	20	2505.5	-42.787	-20	PASS
2472	20	2506.5	-44.055	-20	PASS
2472	20	2507.5	-44.324	-20	PASS
2472	20	2508.5	-45.017	-20	PASS
2472	20	2509.5	-44.746	-20	PASS
2472	20	2510.5	-45.553	-20	PASS
2472	20	2511.5	-45.527	-20	PASS
2472	20	2512.5	-45.949	-20	PASS
2472	20	2513.5	-45.350	-20	PASS
2472	20	2514.5	-45.823	-20	PASS
2472	20	2515.5	-45.669	-20	PASS
2472	20	2516.5	-45.785	-20	PASS
2472	20	2517.5	-45.587	-20	PASS
2472	20	2518.5	-45.926	-20	PASS
2472	20	2519.5	-45.683	-20	PASS
2472	20	2520.5	-45.695	-20	PASS
2472	20	2521.5	-45.680	-20	PASS
2472	20	2522.5	-45.942	-20	PASS

A.8 Transmitter unwanted emissions in the spurious domain

Note ¹: The test method choose the conducted method. Which power in a specified load (conducted spurious emissions) and their effective radiated power when radiated by the cabinet or structure of the equipment (cabinet radiation).

Note ²: The Frequency band was pre-scanned, the harmonic and other spurious which worst frequency are recorded in the report.

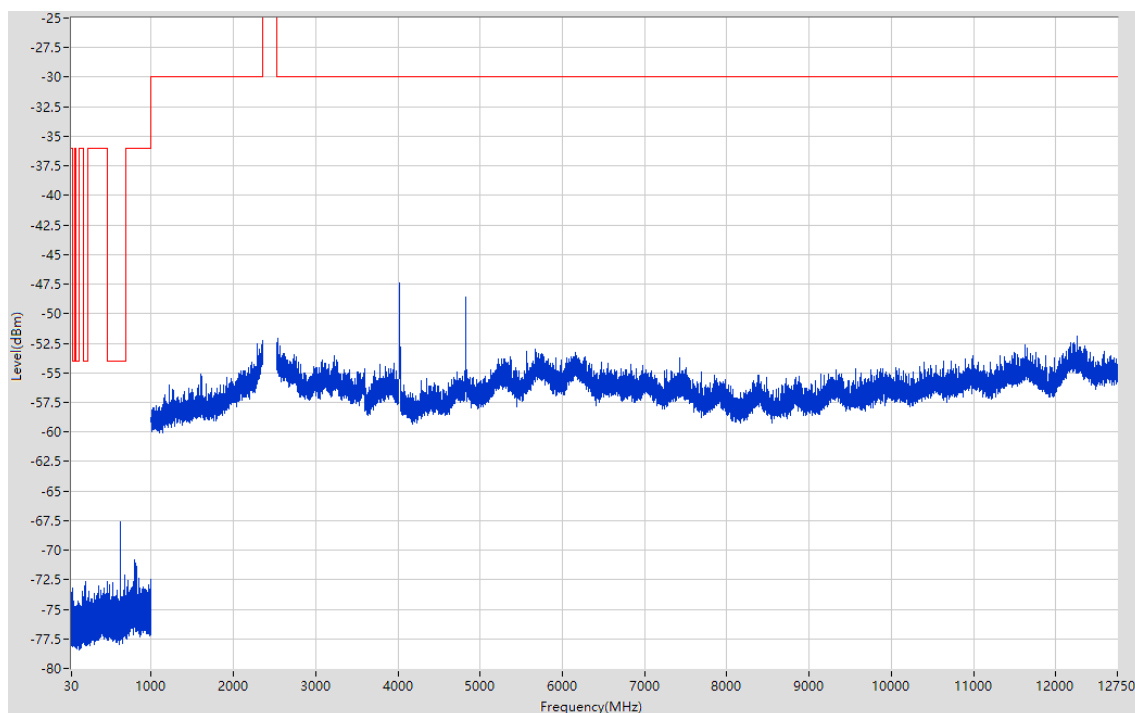
Note ³: The cabinet radiated test data is tested in the normal working mode of the product.

Measuring Parameter

Frequency Range		
30 MHz to 1 000 MHz	RBW (MHz)	100 kHz
	VBW (MHz)	300 kHz
	Sweep points	9970
	Detector mode	Peak
	Trace mode	Max Hold
1 GHz to 12,75 GHz	RBW (MHz)	1 MHz
	VBW (MHz)	3 MHz
	Sweep points	11750
	Detector mode	Peak
	Trace mode	Max Hold

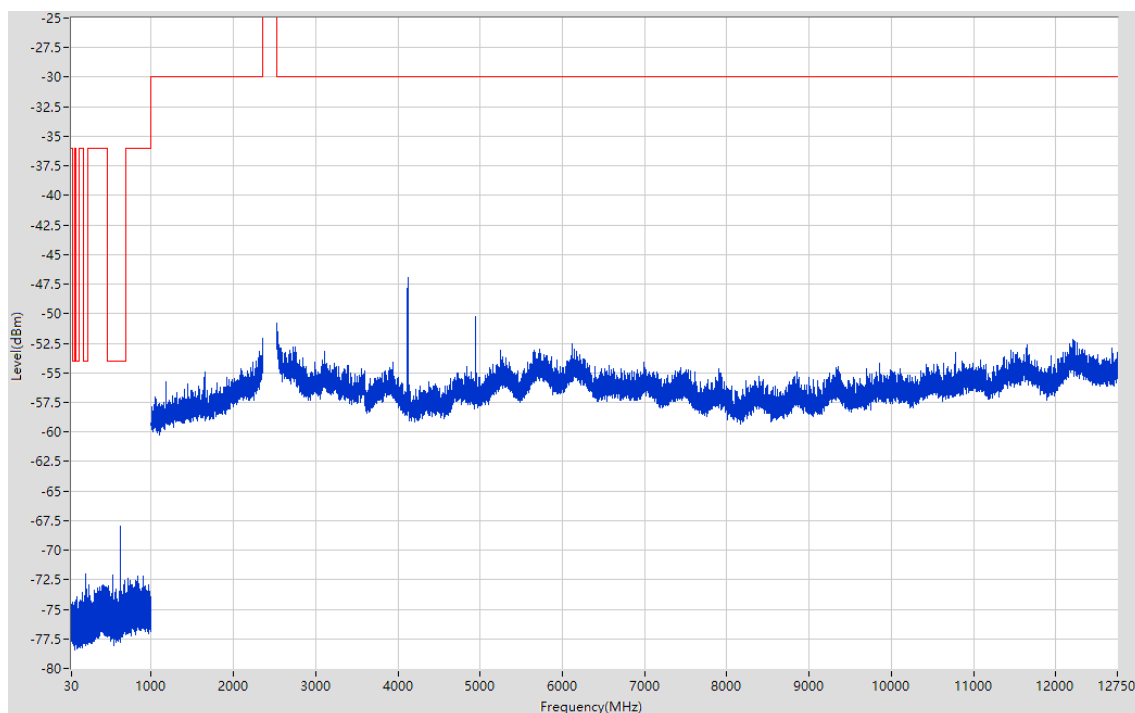
Conducted Test Data

802.11b, 30 MHz to 12.75 GHz, Low Channel



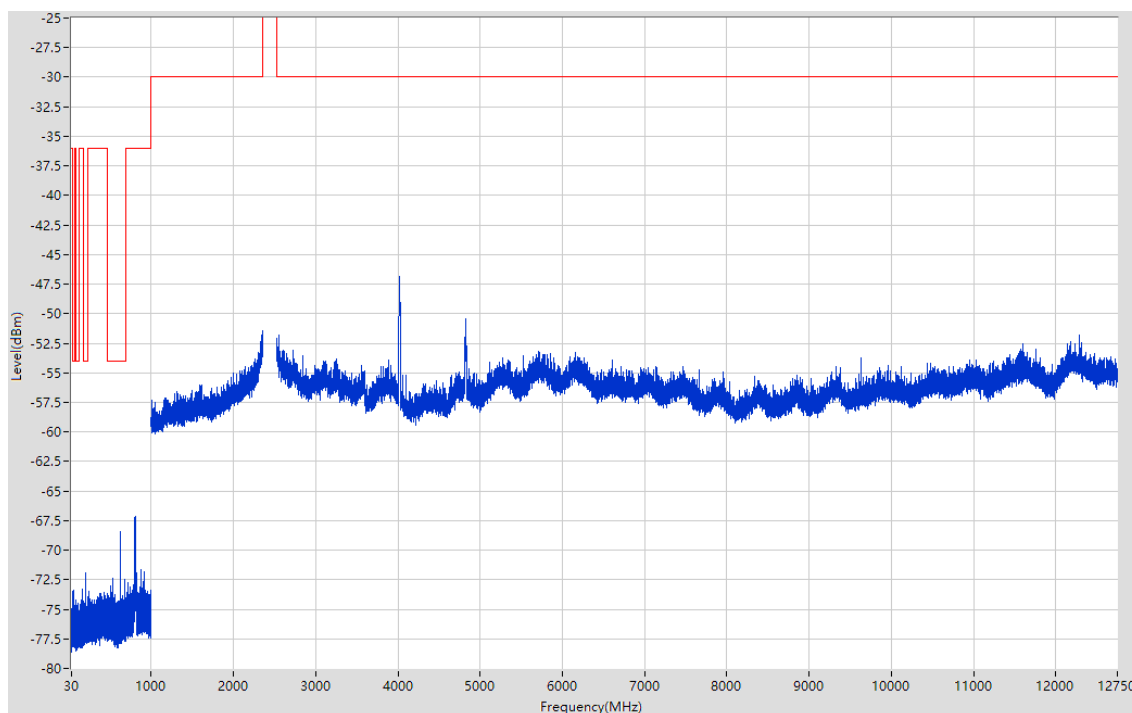
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	47	0.1	Peak	45.3	-73.24	-36	Pass	401
47	74	0.1	Peak	58.85	-74.35	-54	Pass	541
74	87.5	0.1	Peak	81.898	-74.74	-36	Pass	401
87.5	118	0.1	Peak	108.7	-74.33	-54	Pass	611
118	174	0.1	Peak	160	-73.45	-36	Pass	1121
174	230	0.1	Peak	200	-72.67	-54	Pass	1121
230	470	0.1	Peak	466.1	-72.68	-36	Pass	4801
470	694	0.1	Peak	624	-67.59	-54	Pass	4481
694	1000	0.1	Peak	795.15	-70.81	-36	Pass	6121
1000	2360	1	Peak	2356.595	-52.25	-30	Pass	2797
2523.5	12750	1	Peak	4019.939	-47.38	-30	Pass	20530

802.11b, 30 MHz to 12.75 GHz, High Channel



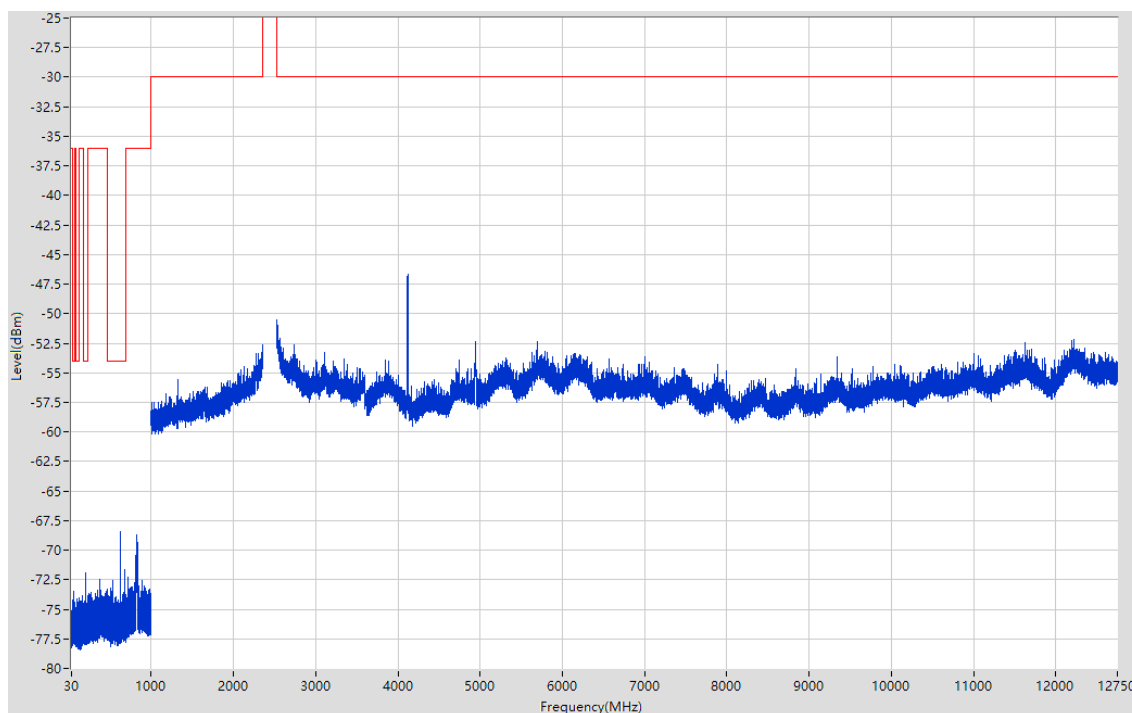
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	47	0.1	Peak	39.903	-74.38	-36	Pass	401
47	74	0.1	Peak	65.55	-74.42	-54	Pass	541
74	87.5	0.1	Peak	87.399	-74.25	-36	Pass	401
87.5	118	0.1	Peak	98.2	-73.93	-54	Pass	611
118	174	0.1	Peak	160	-73.61	-36	Pass	1121
174	230	0.1	Peak	199.95	-72.04	-54	Pass	1121
230	470	0.1	Peak	411.3	-72.9	-36	Pass	4801
470	694	0.1	Peak	624	-67.98	-54	Pass	4481
694	1000	0.1	Peak	831.15	-72.18	-36	Pass	6121
1000	2360	1	Peak	2359.514	-52.1	-30	Pass	2797
2523.5	12750	1	Peak	4120.067	-46.96	-30	Pass	20530

802.11g, 30 MHz to 12.75 GHz, Low Channel



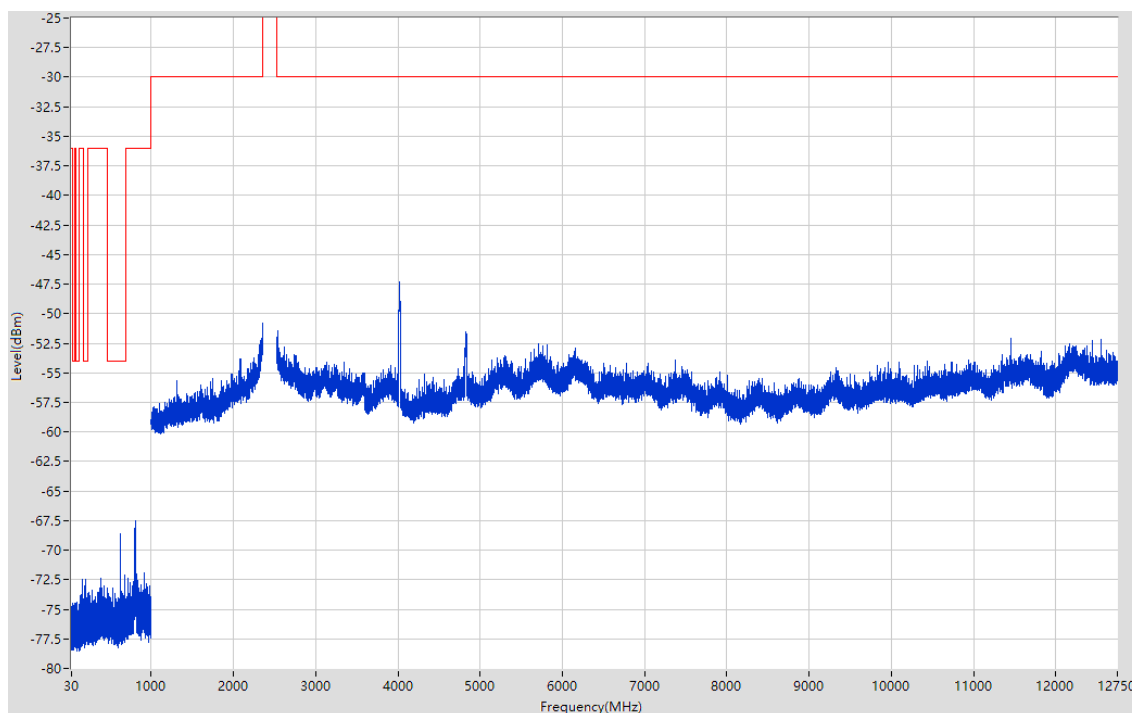
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	47	0.1	Peak	40.073	-73.48	-36	Pass	401
47	74	0.1	Peak	54.7	-73.36	-54	Pass	541
74	87.5	0.1	Peak	77.78	-74.19	-36	Pass	401
87.5	118	0.1	Peak	107.15	-74.53	-54	Pass	611
118	174	0.1	Peak	160	-73.26	-36	Pass	1121
174	230	0.1	Peak	200	-71.95	-54	Pass	1121
230	470	0.1	Peak	234.9	-73.45	-36	Pass	4801
470	694	0.1	Peak	624	-68.41	-54	Pass	4481
694	1000	0.1	Peak	804.35	-67.16	-36	Pass	6121
1000	2360	1	Peak	2360	-51.41	-30	Pass	2797
2523.5	12750	1	Peak	4018.445	-46.86	-30	Pass	20530

802.11g, 30 MHz to 12.75 GHz, High Channel



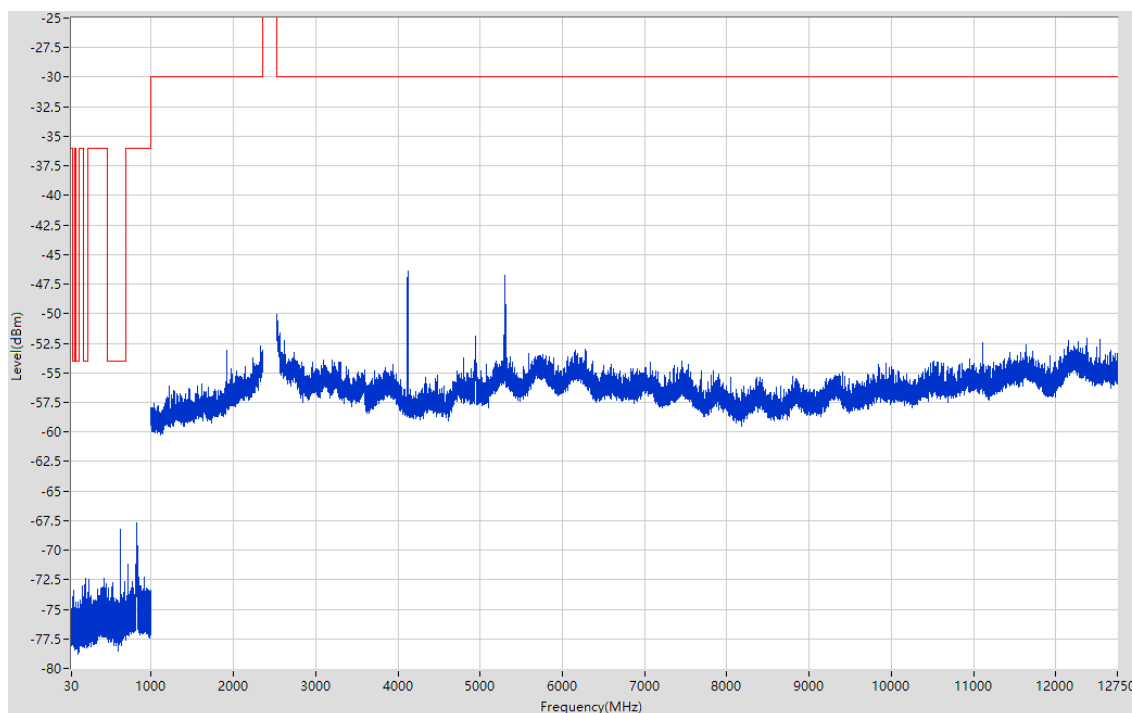
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	47	0.1	Peak	39.18	-74.22	-36	Pass	401
47	74	0.1	Peak	58.2	-73.46	-54	Pass	541
74	87.5	0.1	Peak	81.763	-74.81	-36	Pass	401
87.5	118	0.1	Peak	101.15	-74.11	-54	Pass	611
118	174	0.1	Peak	160	-73.81	-36	Pass	1121
174	230	0.1	Peak	200	-71.96	-54	Pass	1121
230	470	0.1	Peak	369.4	-72.44	-36	Pass	4801
470	694	0.1	Peak	624	-68.42	-54	Pass	4481
694	1000	0.1	Peak	825.6	-68.68	-36	Pass	6121
1000	2360	1	Peak	2360	-52.65	-30	Pass	2797
2523.5	12750	1	Peak	4121.064	-46.68	-30	Pass	20530

802.11n(20 MHz), 30 MHz to 12.75 GHz, Low Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	47	0.1	Peak	45.173	-74.48	-36	Pass	401
47	74	0.1	Peak	69.9	-74.53	-54	Pass	541
74	87.5	0.1	Peak	79.299	-74.46	-36	Pass	401
87.5	118	0.1	Peak	102.3	-74.44	-54	Pass	611
118	174	0.1	Peak	160	-72.47	-36	Pass	1121
174	230	0.1	Peak	200	-72.52	-54	Pass	1121
230	470	0.1	Peak	386.8	-72.42	-36	Pass	4801
470	694	0.1	Peak	624	-68.6	-54	Pass	4481
694	1000	0.1	Peak	803.65	-67.55	-36	Pass	6121
1000	2360	1	Peak	2349.299	-50.83	-30	Pass	2797
2523.5	12750	1	Peak	4021.932	-47.27	-30	Pass	20530

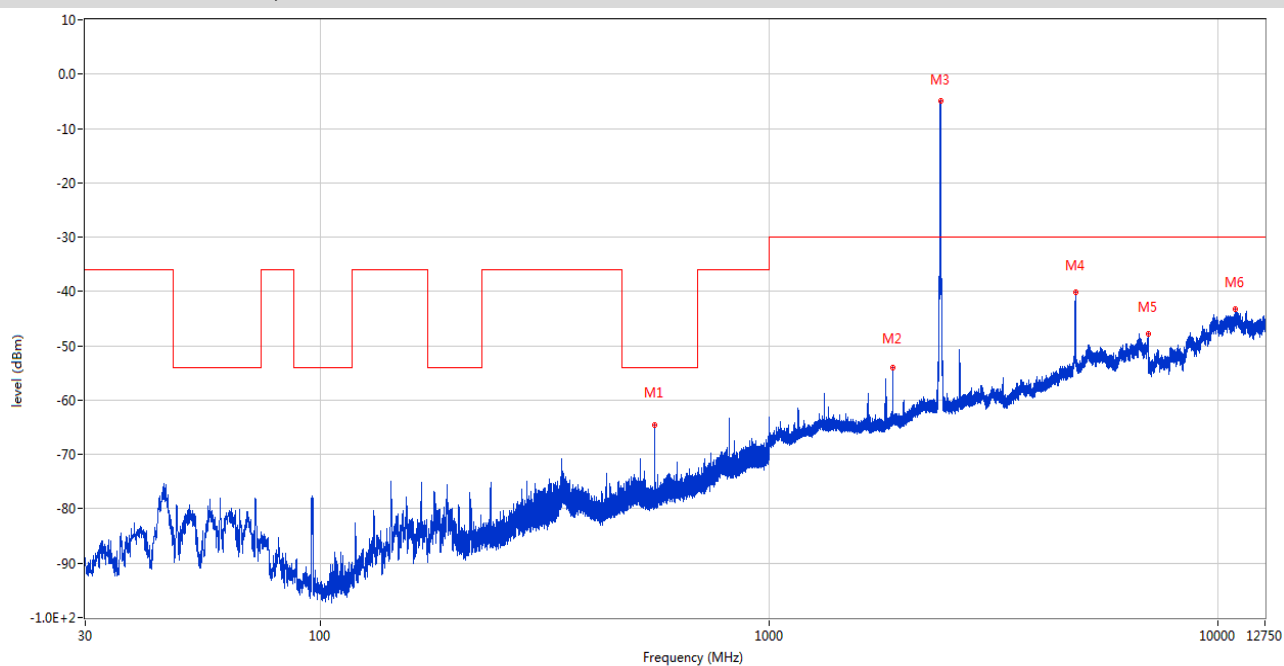
802.11n(20 MHz), 30 MHz to 12.75 GHz, High Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	47	0.1	Peak	45.853	-74.86	-36	Pass	401
47	74	0.1	Peak	58.15	-73.39	-54	Pass	541
74	87.5	0.1	Peak	80.041	-74.36	-36	Pass	401
87.5	118	0.1	Peak	107.7	-74.4	-54	Pass	611
118	174	0.1	Peak	160	-73	-36	Pass	1121
174	230	0.1	Peak	200	-72.34	-54	Pass	1121
230	470	0.1	Peak	432	-72.39	-36	Pass	4801
470	694	0.1	Peak	623.95	-68.26	-54	Pass	4481
694	1000	0.1	Peak	826.5	-67.68	-36	Pass	6121
1000	2360	1	Peak	2324.006	-52.75	-30	Pass	2797
2523.5	12750	1	Peak	4121.064	-46.4	-30	Pass	20530

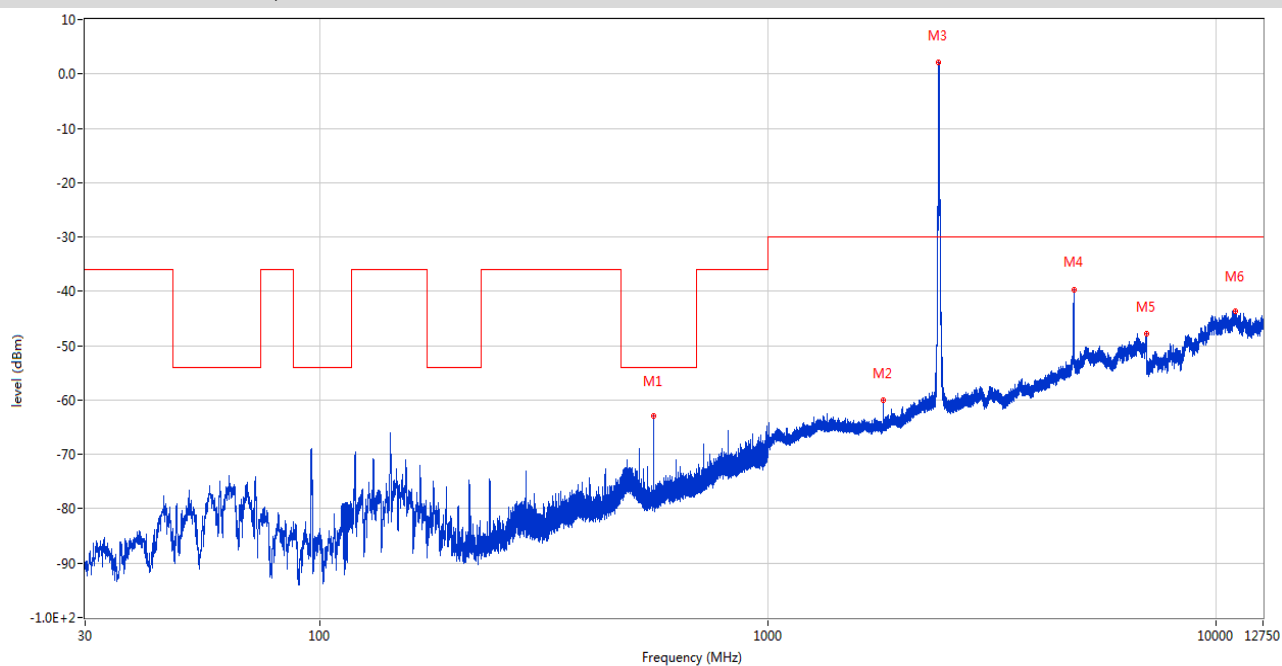
Cabinet Radiation Test Data

30 MHz to 12.75 GHz, ANT V



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
556.856	-64.63	-5.03	-54.0	-10.63	360.00	Vertical	Horizontal	Pass
1890.800	-54.00	-3.70	-30.0	-24.00	223.00	Vertical	Horizontal	Pass
2413.500	-4.88	-0.88	-30.0	25.12	85.00	Vertical	Horizontal	N/A
4820.000	-40.19	8.85	-30.0	-10.19	213.00	Vertical	Horizontal	Pass
6999.400	-47.86	13.53	-30.0	-17.86	105.00	Vertical	Horizontal	Pass
10924.375	-43.33	19.49	-30.0	-13.33	312.00	Vertical	Horizontal	Pass

30 MHz to 12.75 GHz, ANT H



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
556.856	-62.89	-5.03	-54.0	-8.89	15.00	Horizontal	Horizontal	Pass
1809.600	-60.01	-5.02	-30.0	-30.01	17.00	Horizontal	Horizontal	Pass
2409.500	2.18	-0.85	-30.0	32.18	348.00	Horizontal	Horizontal	N/A
4826.000	-39.67	8.72	-30.0	-9.67	301.00	Horizontal	Horizontal	Pass
6998.600	-47.90	13.53	-30.0	-17.90	255.00	Horizontal	Horizontal	Pass
11071.575	-43.75	17.90	-30.0	-13.75	352.00	Horizontal	Horizontal	Pass

A.9 Receiver Spurious Emissions

Note¹: The test method choose the conducted method. Which power in a specified load (conducted spurious emissions) and their effective radiated power when radiated by the cabinet or structure of the equipment (cabinet radiation).

Note²: The Frequency band was pre-scanned, the harmonic and other spurious which worst frequency are recorded in the report.

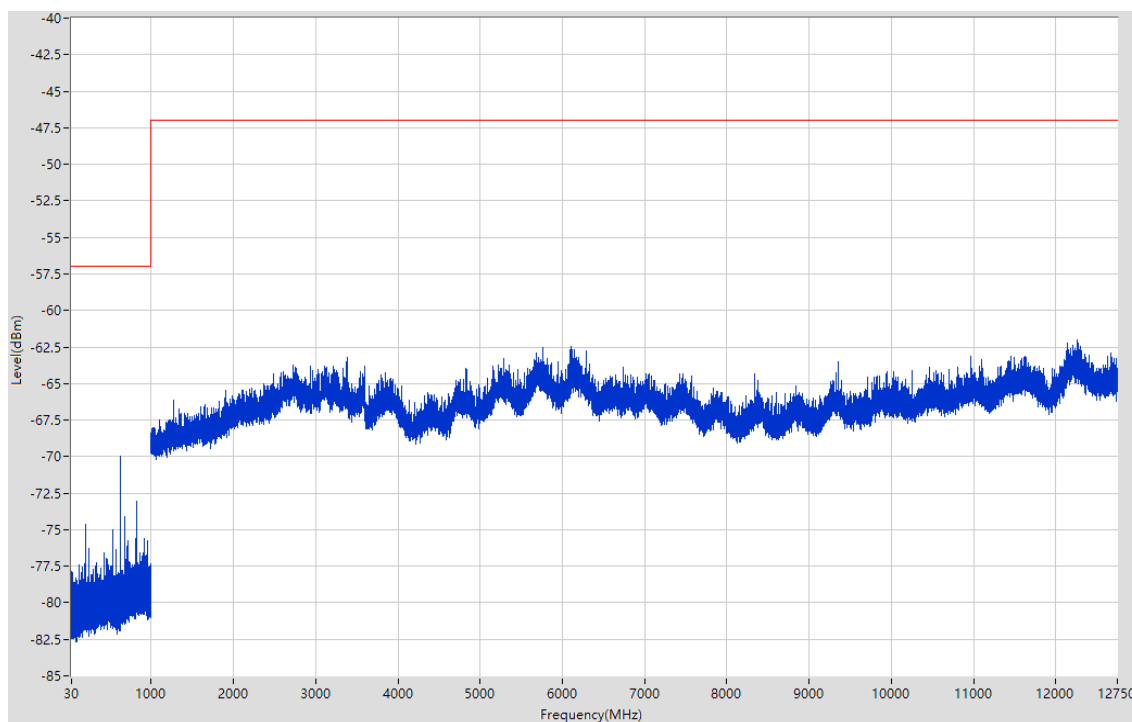
Note³: The cabinet radiated test data is tested in the normal working mode of the product.

Measuring Parameter

Frequency Range		
30 MHz to 1 000 MHz	RBW (MHz)	100 kHz
	VBW (MHz)	300 kHz
	Sweep points	9970
	Detector mode	Peak
	Trace mode	Max Hold
1 GHz to 12,75 GHz	RBW (MHz)	1 MHz
	VBW (MHz)	3 MHz
	Sweep points	11750
	Detector mode	Peak
	Trace mode	Max Hold

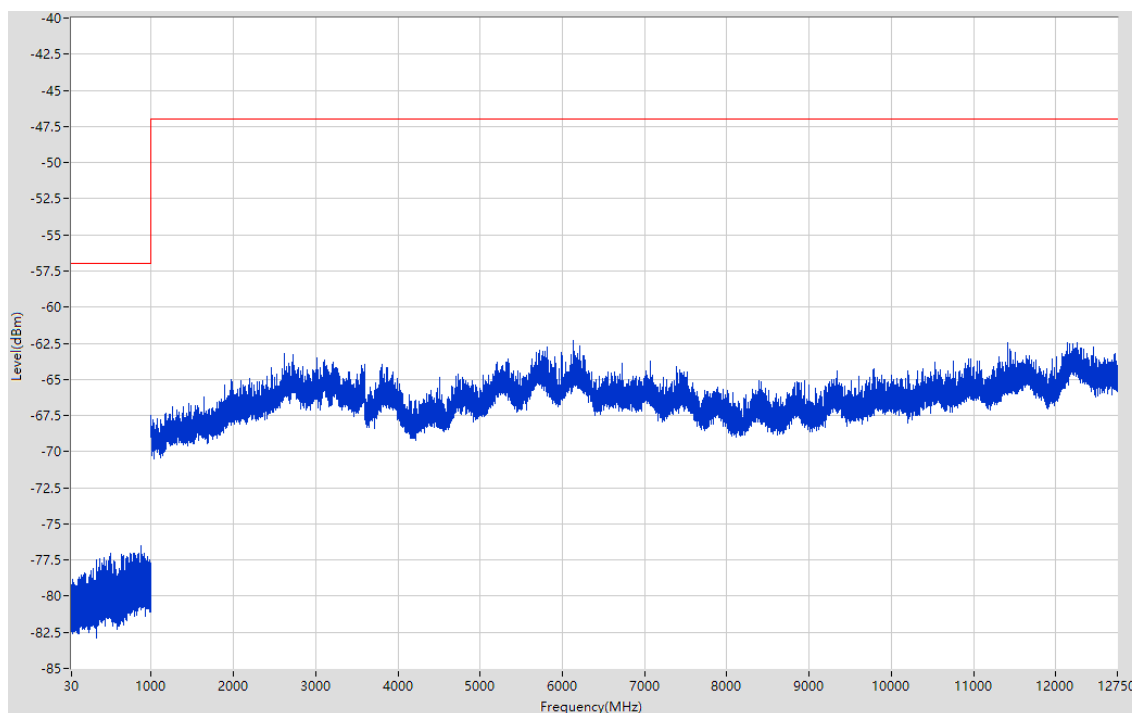
Conducted Test Data

802.11b, 30 MHz to 12.75 GHz, Low Channel



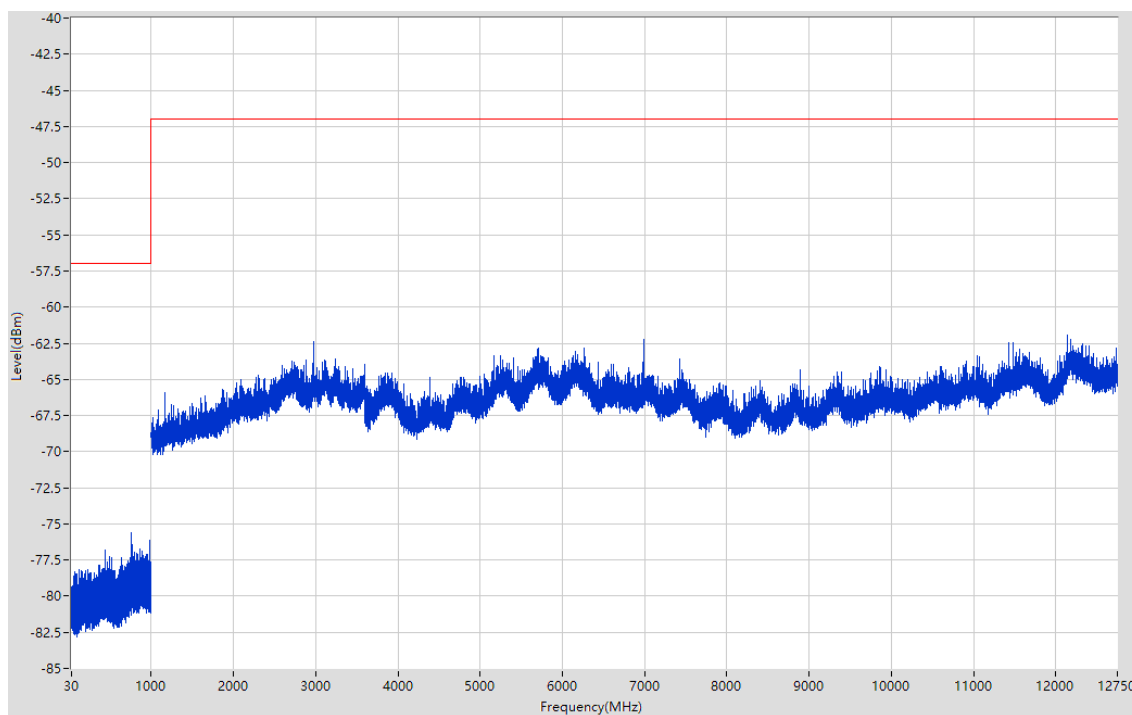
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	1000	0.1	Peak	624	-69.97	-57	Pass	19401
1000	12750	1	Peak	12255.5	-62.03	-47	Pass	23501

802.11b, 30 MHz to 12.75 GHz, High Channel



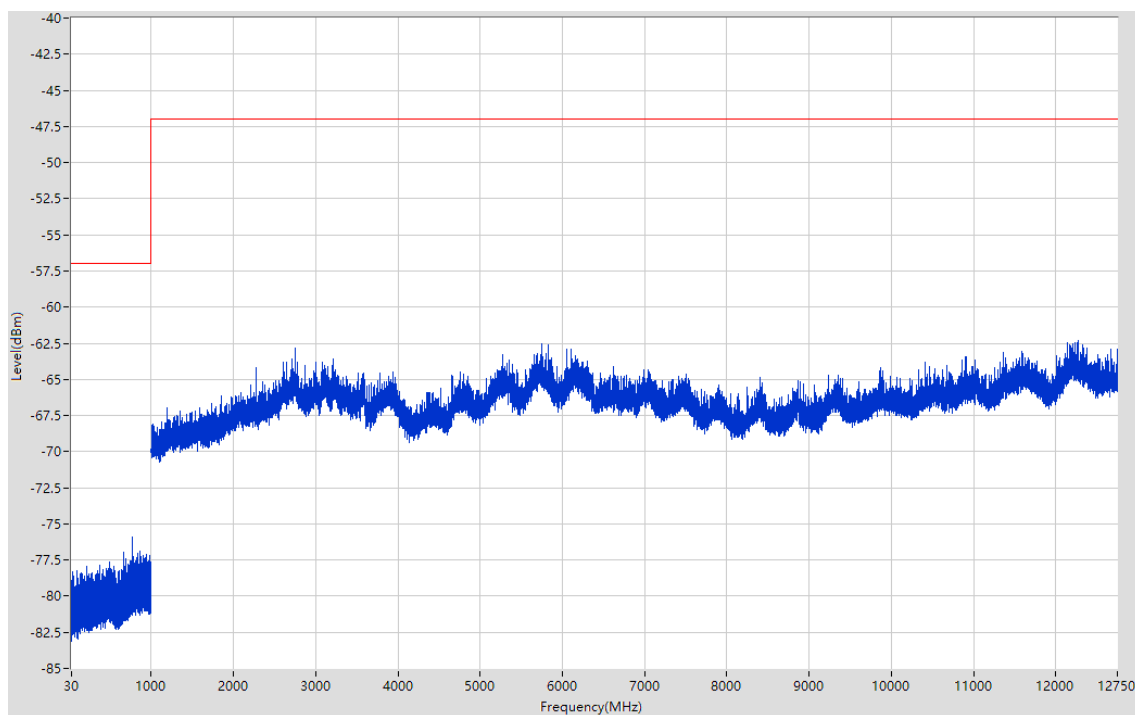
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	1000	0.1	Peak	871.95	-76.53	-57	Pass	19401
1000	12750	1	Peak	6137.5	-62.29	-47	Pass	23501

802.11g, 30 MHz to 12.75 GHz, Low Channel



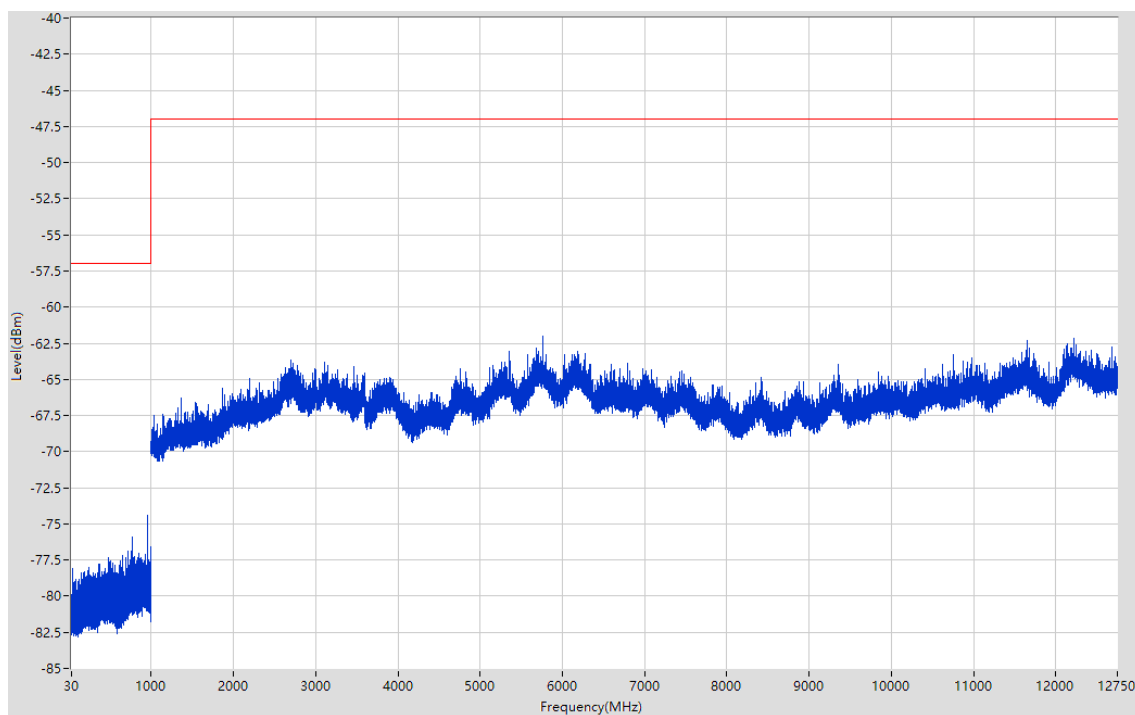
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	1000	0.1	Peak	757.1	-75.62	-57	Pass	19401
1000	12750	1	Peak	12137.5	-61.95	-47	Pass	23501

802.11g, 30 MHz to 12.75 GHz, High Channel



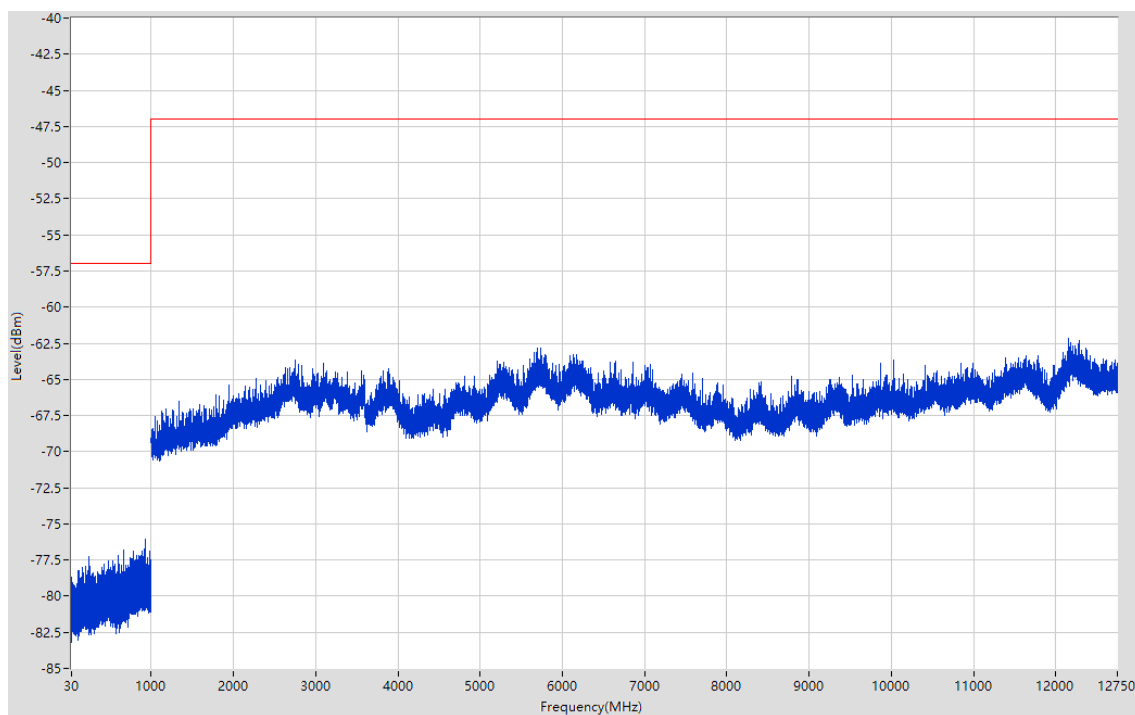
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	1000	0.1	Peak	775.35	-75.87	-57	Pass	19401
1000	12750	1	Peak	12272.5	-62.3	-47	Pass	23501

802.11n(20 MHz), 30 MHz to 12.75 GHz, Low Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	1000	0.1	Peak	950	-74.38	-57	Pass	19401
1000	12750	1	Peak	5764.5	-62.03	-47	Pass	23501

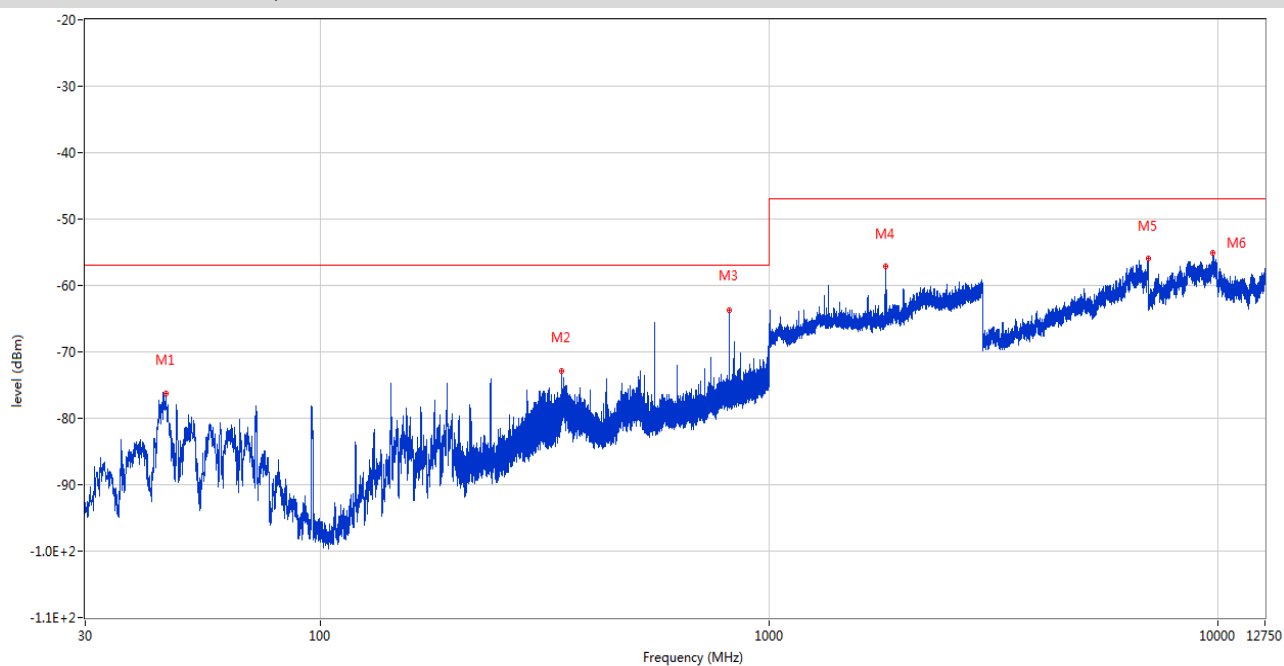
802.11n(20 MHz), 30 MHz to 12.75 GHz, High Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Limit (dBm)	Verdict	Sweep Point
30	1000	0.1	Peak	922.4	-76.07	-57	Pass	19401
1000	12750	1	Peak	12151	-62.18	-47	Pass	23501

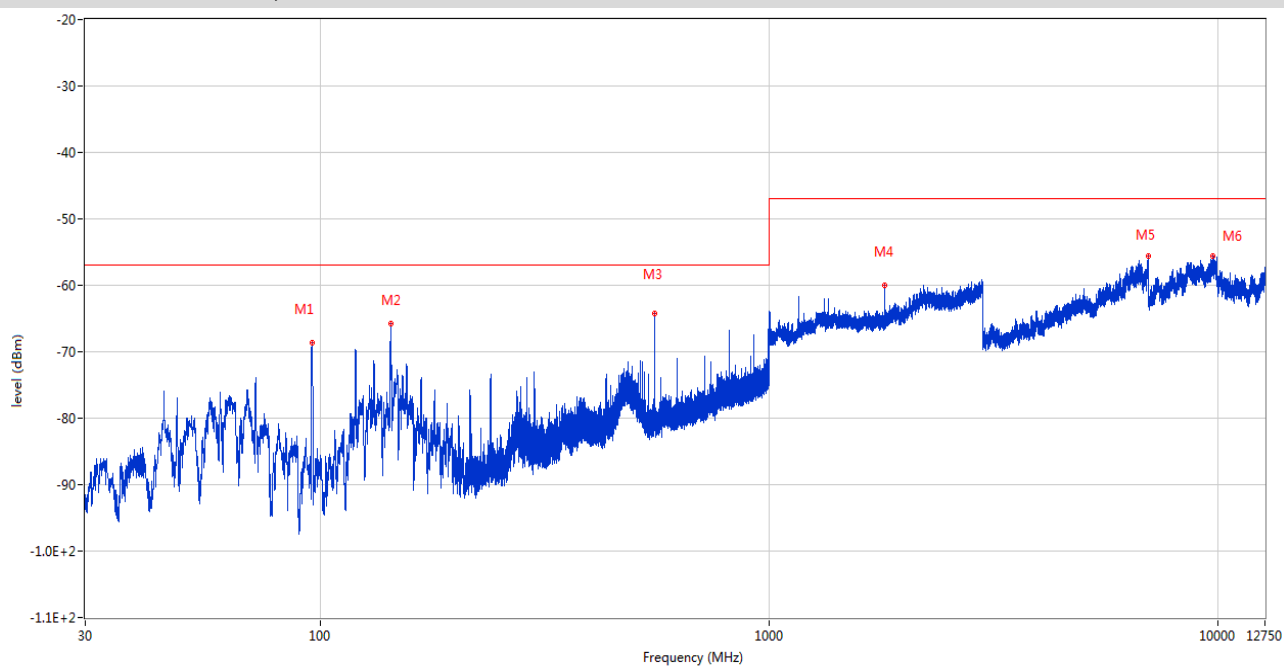
Cabinet Radiation Test Data

30 MHz to 12.75 GHz, ANT V



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
45.326	-76.34	-15.05	-57.0	-19.34	245.00	Vertical	Horizontal	Pass
345.492	-72.92	-10.32	-57.0	-15.92	51.00	Vertical	Horizontal	Pass
815.991	-63.66	1.28	-57.0	-6.66	285.00	Vertical	Horizontal	Pass
1826.300	-57.14	-4.76	-47.0	-10.14	204.00	Vertical	Horizontal	Pass
6997.600	-55.95	5.91	-47.0	-8.95	21.00	Vertical	Horizontal	Pass
9745.338	-55.15	7.33	-47.0	-8.15	361.00	Vertical	Horizontal	Pass

30 MHz to 12.75 GHz, ANT H



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Over Limit (dB)	Table (o)	ANT	EUT	Verdict
95.863	-68.58	-21.29	-57.0	-11.58	131.00	Horizontal	Horizontal	Pass
143.830	-65.79	-15.98	-57.0	-8.79	292.00	Horizontal	Horizontal	Pass
556.856	-64.26	-5.03	-57.0	-7.26	8.00	Horizontal	Horizontal	Pass
1809.500	-60.06	-5.03	-47.0	-13.06	0.00	Horizontal	Horizontal	Pass
6997.600	-55.66	5.91	-47.0	-8.66	358.00	Horizontal	Horizontal	Pass
9759.425	-55.54	7.43	-47.0	-8.54	51.00	Horizontal	Horizontal	Pass

A.10 Receiver Blocking

Test Data

Note 1: Blocking signal levels specified are levels in front of the UUT antenna. In case of conducted measurements, the levels corrected by the actual antenna assembly gain.

Note 2: During the Blocking test, the number of packets sent by the system is 1000.

802.11b:

Receiver Category 1 equipment

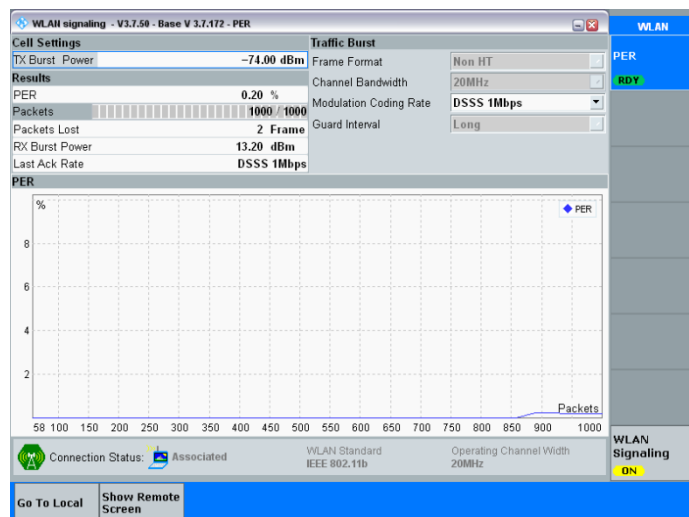
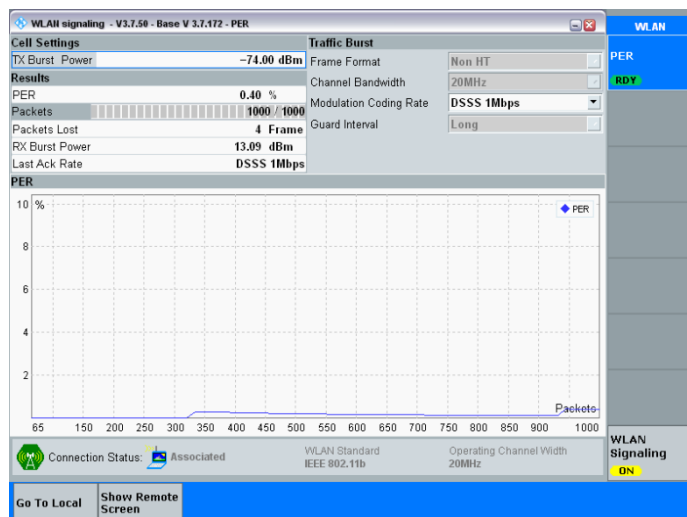
Wanted signal mean power from companion device (dBm)	Blocking signal Frequency (MHz)	Blocking signal power (dBm) (see note 1)	PER Result		Limit	Verdict
			Low channel	High channel		
(-133 dBm + $10 \times \log_{10}(\text{OCBW})$) or -68 dBm whichever is less	2 380	-34	0.00%	0.00%	$\leq 10\%$	Pass
	2 504	-34	0.10%	0.00%		
(-139 dBm + $10 \times \log_{10}(\text{OCBW})$) or -74 dBm whichever is less	2 300	-34	0.10%	0.00%		
	2 330	-34	0.20%	0.30%		
	2 360	-34	0.30%	0.10%		
	2 524	-34	0.00%	0.10%		
	2 584	-34	0.20%	0.00%		
	2 674	-34	0.40%	0.00%		

Test Plot (PER)

Note: All the configuration were tested, but only the worst PER Plot were reported in this report.

802.11b: Low Channel

802.11b: High Channel



ANNEX B TEST SETUP PHOTOS

Please refer to the document “BL-SZ2220598-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer to the document “BL-SZ2220598-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2220598-AI.pdf”.

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--END OF REPORT--